

**SUICIDE AND UNDETERMINED DEATH IN SOUTH  
EAST SCOTLAND. A CASE-CONTROL STUDY USING  
THE PSYCHOLOGICAL AUTOPSY METHOD**

Thesis for the Degree of Doctor of Medicine

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## ABSTRACT

## DECLARATION

I hereby declare that :-

- (a) this thesis was composed entirely by myself
- (b) the study forming the basis of this thesis was carried out by myself
- (c) the systematic review of the literature on psychological autopsy was carried out by myself in collaboration with colleagues at the Department of Psychiatry, University of Edinburgh.

Signed:

Jonathan T.O.Cavanagh.



## **ABSTRACT**

Mental disorders are major risk factors for suicide. Not all those who suffer from them kill themselves. Additional information is required to differentiate higher from lesser risk patients.

Retrospective case-control comparisons were made of cases of suicide/undetermined death with living controls using psychological autopsy in South East Scotland. Cases and controls were matched for age, sex and mental disorder. Informants were those closest to cases and controls. The subjects were 45 cases of suicide/undetermined death and 40 living controls.

Cases and controls did not differ in any significant way with respect to severity of mental disorder. The main factors independently associated with undetermined death or suicide were:- a history of deliberate self harm (adjusted OR 4.1) physical ill health (adjusted OR 7.8) treatment of whatever kind by mental health services (adjusted OR 0.01). Other antecedents associated with increased risk (criminal record, involvement with police, financial problems and failure to vote) and those associated with decreased risk (contact with a doctor and in-patient care) did not exert effects after controlling for confounding.

Controls were receiving more care of whatever kind. Treatment of mental disorder comorbid with physical illness and a history of deliberate self harm may be especially important. Factors which separate those with mental disorder at high risk from those at lesser risk relate to care levels provided, which may be a function of engagement by and with health services. The role of mental health professionals is beneficial in suicide prevention. The focusing of that role toward engaging alienated or "difficult" patients should be addressed.

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Robert Burton

*The Anatomy of Melancholy*

## DEDICATION

This thesis is dedicated to my family and ad maiorem Dei gloriam.

This project was funded by Chief Scientist Office of the Scottish Office.

The data from the study have been presented at scientific meetings and are published in:

*Psychological Medicine* 1990; 20: 1141-1149

*Social Psychiatry and Psychiatric Epidemiology* 1999; 34: 645-650.

**“ Of their goods and bodies we can dispose; but what shall become of their souls God alone can tell; His mercy may come *inter pontem et fontem, inter gladium et jugulum*, betwixt the bridge and the brook, the knife and the throat.”**

**Robert Burton**

***The Anatomy of Melancholy.***

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## AIMS AND OBJECTIVES OF THE THESIS

1) To conduct a review of the literature on studies which have used a variety of methodologies.

a) using these studies to examine the epidemiology of suicide, global variation in suicide and the situation as it pertains to the United Kingdom and to examine the contemporary debate on how best to reduce suicide rates.

b) to explore specifically clinical variables and their relationship to suicide.

2) To conduct a systematic review of the literature on the technique of psychological autopsy using the prescribed technique

3) To conduct a retrospective case controlled comparison of case of suicide/undetermined death with living controls using psychological autopsy in South East Scotland.

Cases and controls to be matched for age, sex and mental disorder. Informants to be those closest to the deceased.

4) To identify antecedents which differentiate those with mental disorder who die by their own hand from those who do not . To aid such identification, the following aims were pursued :-i) To identify the contribution of health-related variables ii) To identify the contribution of adverse life event stressors iii) To identify the role of individual personality variables

## **1.1 DEFINITION OF SUICIDE**

Suicide is defined under the aegis of the law, not of medicine. Suicide is not a diagnosis, rather it is a verdict or category of death. The features required in order for a death to be categorised as a suicide are broadly similar in countries operating under a legal definition:-

- (1) the death was unnatural
- (2) it was the result of the victim's own actions
- (3) the victim intended to kill him/herself.

Although there can be doubts at all three stages of this process (Farmer 1988), the first two criteria can, to some extent be defined by scientific forensic principles. The third criterion is frequently the most difficult to establish as the motive of a person who cannot be interviewed must be the result of a degree of speculation and yet this is in many ways the most crucial of the three. The evaluation of intention differentiates self inflicted death into accident and suicide. If intention is confirmed then the death is recorded as suicide. When one's own death is being used instrumentally to solve life's problems, this is suicide (Litman, 1989).

## **1.2 DETERMINATION OF SUICIDE**

Whereas the definition of what constitutes a suicide may be similar, the process of determination does vary considerably from country to country. This can affect the reliability of international comparisons of suicide statistics.

The United Kingdom is a case in point. Here two separate legal systems for the determination of suicide operate. In England, Wales and Northern Ireland the Coroner investigates every case where violent or unnatural death is suspected. The Coroner's Court is a public inquest attending which, in addition to the jury, are the family of the deceased and often the press. The three possible verdicts are suicide, accidental death or, if undecided, an open verdict. Variation occurs not only among courts, but between a Coroner and his deputy (Barraclough 1978) and within the same court and jury with different Coroners (O'Donnell & Farmer 1995).

By contrast, in Scotland the police investigate sudden, suspicious or unnatural deaths. A report is then made to the Procurator Fiscal, a legal officer of the Crown. With the results of the police investigations and the physical autopsy carried out by a Fiscal pathologist, the Procurator Fiscal then interviews the next of kin. The requirement for a public Fatal Accident Inquiry is then discussed.

The key difference in the Scottish system is the confidential nature of the interview held by the Procurator Fiscal with the next of kin. A public inquiry is rarely required. The final determination of whether a death is categorised as an accident, a suicide or it is undetermined lies with the Crown Office based on the Procurator Fiscal's report.

The differences in process between the two systems in the UK extend to the rules of evidence. The Scottish jurisdiction bases verdicts of suicide on whether evidence indicating that suicide was the most probable and reasonable explanation. The Coroner, however, must apply a stricter legal test, that suicide has been proved by the evidence (Dolman 1994). These differences have added weight to the argument that the Scottish figures more accurately reflect the true suicide rate (Pounder 1991).

With a few exceptions such as hara-kiri, death by suicide has been disowned and despised by society. The death of the person by their own hand resulted in shame and obloquy being meted out to their surviving family. As recently as two centuries ago, English Law stated that individuals who committed suicide and their spouses should "forfeit all chattels real and personal which he has in his own right", which resulted in penury for the victim's family. Further, people who committed suicide were denied burial in consecrated ground, the crime of "felo de se" resulting in burial at crossroads "whereon every beggar's foot should tread" with a wooden stake driven through the heart.

From the 17th Century, sympathetic Coroners sought to avoid returning verdicts of suicide, and this humanitarian trend has continued to the present day with efforts being made to spare the feelings of relatives from the guilt and anguish that a suicide frequently generates. It was well into the 20th century, 1961, before all criminal sanctions against a person who attempted or committed suicide were abolished in Britain.

The change in the law reflected the prevailing view that the suicidal person could no longer be viewed as a criminal to be dealt with by the legal system, but rather as a person suffering from some form of distress and therefore to be treated by the mental health services. The logical implication of this thinking was that those who committed suicide were considered to have a mental disorder and, although intention had to be established, these individuals were not responsible for their own death.

Since 1975, when the Lord Chief Justice Widgery ruled on an appeal against a Coroner's verdict of suicide, this more humane view of suicide has been reinforced by the legal requirement for conclusive proof before suicide is established (Dolman 1994). The consequence is that most research into suicide includes the victims of undetermined deaths, although the characteristics of these individuals lie midway between those of suicides and accidents in many respects (Holding & Barraclough 1978). When psychiatrists have investigated the Crown's decisions there is a consensus that between a third and a half of probable suicides are categorised as accidental or undetermined deaths (Ovenstone, 1973).



### **1.3 EPIDEMIOLOGY OF SUICIDE**

Despite the vagaries of statistical interpretation, suicide remains a serious public and mental health problem worldwide. In many countries suicide is included among the top ten causes of death for all ages and among the 15-34 age group, it ranks second or third (Diekstra, 1993). What remains an international problem is the fragmentary nature of basic data on suicide. For example, only 39 of the 166 member states of the UN are listed as reporting data on suicide mortality (World Health Organisation, 1989). Along with this, there is great variety in the methods which exist to report and ascertain the cause of death.

The magnitude of suicide rates can be illustrated when they are compared with that other major cause of death in industrialised societies, road traffic accidents (RTAs). The number of people dying by their own hand is now significantly higher than those who die in RTAs. Indeed, the rates of these two causes of death have been going in opposite directions over the last two decades with RTA mortality decreasing and suicide increasing, especially among adolescents and young adults (Diekstra, 1996).

### **1.3.1 Validity and reliability of suicide statistics**

Despite the increasingly prominent profile of suicide as a cause of death in many countries, there are major difficulties in comparing rates between nations as there is no global standardised criteria for the classification and reporting of suicide. However, within Europe this situation is improving.

The 1982 World Health Organisation (WHO) review indicated that differences in methods of determining whether deaths are suicide do not explain differences in suicide rates between populations. When the methods of ascertainment were controlled for, several authors found that differences in the rank order of suicides of countries or cultural groups were essentially the same (Sainsbury & Barraclough, 1968; Whitlock, 1971; Lester, 1972; Barraclough, 1973; Sainsbury et al, 1981).

Moreover, differences in rates between national, demographic and social groups have been recorded over significant time periods and have remained stable despite political upheaval which, in certain countries, has resulted in altered criteria and methods for determining suicide (Diekstra, 1996).

Although suicide is underreported for a variety of reasons and, as with mortality figures in general, they are subject to a number of errors it seems that these errors are randomised and as such it is possible to compare rates between countries, both within them and over time.



### 1.3.2 Geographical patterns

Within the European region there is a pattern to the suicide rates. The lowest rates are seen in Southern European countries followed by those in the North-West e.g UK and the Netherlands which show slightly higher rates. Higher still rates are prevalent in the Scandinavian countries and those countries which form the "belt" of Europe i.e. France and Belgium in the West through Switzerland, Austria and Hungary to Russia in the East. This position has remained virtually intact throughout the last century. The trend of suicide in the European region depends upon which countries one is looking at. These differ but it can be said that the per period averaged rate has increased over the course of the century. The evidence to date suggests that the prevalence of suicide continues to vary in accordance with international differences in traditions, customs, religious practice and other influences; but it also suggests that the strength of these differences is decreasing and that there is homogenisation among these countries within several areas including suicide rate.

**INTERNATIONAL PATTERNS OF SUICIDE (Table 1)  
FROM DATA AVAILABLE UP TO 1996**

<b>COUNTRY</b>	<b>PATTERN</b>
Australia	Highest youth rate in the industrialised world at 16.4 per 100 000 in the 15-24 year age group.
Germany	Decline was noted from 1989-1991 from 18.4 to 17.5 per 100 000. The sex rate remains stable at 2.2 : 1 male : female. A higher rate is recorded for the former East Germany
Denmark	Good records. One of Europe's highest rates. The majority of suicides are males in the 30-59 years age group. However, the greatest increase has been among females in the 40-54 years age group. Over the last 70 years the male rate has increased by 3% to 33.5 per 100 000 and the female rate has risen by 58% to 17.2 per 100 000.
Brazil	Poor records. The highest incidence is among the 25-44 year age group. An increasing trend has been noted among the 15-24 year age group.
Japan	Rates are falling. Hara-kiri is no longer seen as an "honourable death". The peak in 1986 of 21.2 per 100 000 is now falling. The majority of cases are in the 55 years and older age group. However, a worrying trend has been noted with a doubling of the rate in the 10-14 year age group over the period of one year.

## INTERNATIONAL PATTERNS OF SUICIDE (Table 1 contd)

### COUNTRY

### PATTERN

USA

Controversy at present over whether or not rates have doubled over the last twenty years. These figures relate especially to males.

Netherlands

A fall recorded of 10% overall since 1985. The majority of cases are among elderly men. But rates among males in the 30-39 year age group have increased.

France

Among the highest rates in Europe. An upward trend has been recorded over the last 10 years from 16 per 100 000 to 20.1 per 100 000. This may reflect an under estimation of the real increase. Sex ratio is 3 : 1 male : female.

Rates among men aged 30-34 years have doubled and among males in the 20-29 year old age group, have increased by 50% in less than 20 years. Higher rates in rural compared to urban centres.

Hungary

In the years 1985-89 showed the highest rates worldwide for men (52.1 per 100 000) in all ages and similarly for women (17.6 per 100 000). Between 1955-1989 showed an increase in the suicide rate of >150%

Sri Lanka

In the years 1985-89 showed the highest worldwide rates next to Hungary for men (49.6 per 100 000) and the highest for women (19 per 100 000).

### **1.3.3 Suicide in Scotland, England and Wales**

#### **(a) Scotland**

In Scotland there are between five and six hundred deaths per annum attributed to suicide and approximately two hundred to undetermined causes (Registrar General's Office Scotland, 1995). There is estimated under-reporting of about 30% (Ovenstone, 1973) which is easily corrected by assuming all undetermined deaths to have been suicides and adding undetermined deaths to suicides gives the probable maximum number of deaths (Pounder 1991). Over the last 15-20 years male deaths and male death rates from suicide have increased whilst those of females have remained static or fallen slightly. There has also been a disproportionate increase in the rates of suicide among the younger cohort of Scottish males (Registrar General's Office Scotland, 1988 ; Lowy et al, 1990).

Scotland is not especially unusual in this regard, particularly in the European context. What is of concern is the reversal of Scotland's position relative to England and Wales. Until the 1950s the suicide rate in Scotland was lower than that in England and Wales for both sexes.

Convergence of the rates occurred around the 1960s but by the 70s rates in both sexes in Scotland were higher. Moreover, in England and Wales there was an overall decrease in female suicide between 1956-76.

Scottish rates are now higher by 30% in men and 20% in women and data analysis demonstrates that this is not an artefact of allocating deaths to the undetermined category (Crombie, 1990)

Durkheim's statement in 1897 that international differences in suicide rates remained fairly constant over time has been borne out for most of 20th century until this reversal of the rates in Scotland compared to England and Wales.

### **(b) England and Wales**

For the first time since 1911 male suicide rates are increasing in England and Wales while female rates are decreasing. There is also a change in the age distribution with males under 45 now at greater risk of death by suicide than the older group.

#### *Period effects*

Using trends of 5-year average death rates analysis showed that since the 1970s rates for men of 45 and over have fallen while those for men under 45 have risen such that they now exceed the rates for the older age group excepting those men aged 75 and over, who continue to have the highest rates. All age groups converged to similar rates by 1986-1990 with the exception of the 15-24 group. Despite their rising rates they are still lower than the older group. The female population saw a peak in all age groups in the period 1956-65 and since then the rates in all age groups have fallen apart from those under 25. Consistent with the pattern for men, there was convergence of the suicide rates for different age groups. In contrast to the male figures, however, women aged 45 and over continued to experience higher suicide rates by 1986-90.

The trends in suicide and undetermined death rates became very similar for every age group under 75 by the 5 year period 1986-1990. The rates for men of 45 and over have fallen as the rates for those under 45 have increased. The rates for women of all age groups have fallen with the most pronounced decreases in those of 45 and over. Notwithstanding this, the suicide rates for females under 45 still remained lower than those for older age groups.

### *Birth Cohort Effects*

Birth cohorts were described by the central year of birth with each cohort containing those born within four years either side of the central year. For men, the 1966 cohort has higher mortality than the 1956 which is higher than the 1946. The 1971 cohort has a mortality rate of 52 per million at ages 15-19 which is significantly higher than that for all earlier cohorts at this age. Charlton and colleagues (1993) note that the suicide rates of cohorts born after 1946 may not yet have peaked and suggest that the suicide rates for those under 45 may continue to rise for some years to come.

For women aged 45 and over, successive birth cohorts experienced lower rates in the 1936 cohort than in the 1926, which was lower than the 1916 cohort. Under 45 the pattern is similar, with the 1966 cohort having lower rates than 1956 which in turn was lower than the 1946 rates. Thus, there is evidence that both period and cohort effects are operating in the changes seen in suicide rates in England and Wales (Charlton et al 1993).



#### **1.4. THE CONTEMPORARY SITUATION**

The United Kingdom government has responded to these worrying trends by issuing specific targets relating to mental health in general and suicide in particular.

In 1992 the government's Health of the Nation document included two suicide targets for England and Wales:- a 15% reduction in the overall suicide rate and a 33 % reduction in the rate among the severely mentally ill. In 1997 the government issued a further green paper, Our Healthier Nation, which had an additional target :-  
" to reduce the death rate from suicide and undetermined injury by at least a further sixth (17%) by 2010, from a baseline at 1996".

These have been controversial targets for a variety of reasons. The main elements of this controversy are the heterogeneous nature of the factors involved in suicide and the specific role of interventions by mental health services and other agencies in meeting these targets.

With regard to the former, there are no specific causal mechanisms for suicide. Rather, suicide is viewed as an end point of various pathways. These include mental disorder, psychological factors, socio-economic problems, familial and interpersonal difficulties and genetic predisposition.

However, more recent work by McClure (1999) has provided some evidence in support of targets. The observed suicide reduction for both sexes between 1990 and 1997 was within the "Health of the Nation" target reduction of 15% between 1990 and 2000.

The influence of the media on so-called "copy-cat" suicides and the ease with which means of suicide can be obtained are also regarded as important variables on the path to suicide (Gunnell & Frankel, 1994).

With regard to the latter, it is clear that interventions must be of proven effectiveness if targets are to be met. No single intervention has been shown in a randomised controlled trial to reduce suicide rates. The greatest potential for achieving a reduction in suicide may well lie in the following :-limiting the availability of methods, e.g. fitting catalytic converters to car exhausts (Kendell, 1998); education of general practitioners; awareness of the effectiveness of lithium and maintenance antidepressants; limitations on the quantity of medicines over the counter and on prescription only compounds (Gunnell & Frankel, 1994).

In addition to these pragmatic measures an awareness should be maintained of those at high risk. These include:-

- those recently discharged from psychiatric hospitals
- those with a history of deliberate self harm
- those who abuse alcohol and drugs
- those with serious physical illness
- those suffering from HIV/AIDS
- prisoners
- medical practitioners and farmers
- the unemployed and young males (aged 15-45).



While targets such as those advanced by the UK government may help highlight strategic areas, focus interventions and aid in the monitoring of progress, they are only as good as the evidence which supports them. The risk run by imposing targets is that resources could be deployed in the wrong areas.

To date targets for the reduction of the risk of suicide have been based on two main bodies of evidence:-

- 1) research evidence based on evaluation of specific interventions
- 2) influence of potentially modifiable factors on suicide rates in which particular interventions have not been formally evaluated.

There is no single readily identifiable high risk population constituting a sizeable proportion of overall suicides and yet representing a small easily targeted group. Only a combination of measures can be expected to achieve set targets, as no single medical intervention exists that has been shown to affect suicide rates.

The evaluation of interventions remains problematical due to the multi-causal nature of suicide, the difficulty of avoiding contamination and the rarity of the outcome.

Importantly, large sample sizes are required to prospectively evaluate interventions in particular settings. Gunnell and Frankel (1994) illustrated this by the following estimates:-

**Table 2**

**Estimated sample sizes (80% power two sided 5% sig level) required for the evaluation of interventions targeted at particular groups. Studies unmatched with equal numbers in intervention and control groups.**

Population studied	Proportion committing suicide	Percentage reduction in suicide	Total sample required
General population, England & Wales	0.01% per year	15	12 909 670
Post parasuicide	2.8% in subsequent 8 yrs	15 50	44 914 3 292
Post discharge from psychiatric hospital	0.9% in subsequent year	15 50	142 258 10396

In light of some of these issues surrounding targets, a debate has been joined in medical literature. Wilkinson (1994) put the question:

"How long should doctors have the power to keep people alive against their will?". Wilkinson argued his point under several headings.

1) That suicide can be neither predicted nor prevented reliably.

In essence, while mental disorder seems to be the most important risk factor for suicide, this information has not impinged on our ability to predict suicide. Further, the rarity of suicide is such that even a predictive factor with high specificity and sensitivity includes too many false positives to be of practical use. Wilkinson cites two studies in support of this argument. Firstly, Goldstein et al (1991) used statistical modelling to predict suicide in a group of 1906 Iowa residents admitted with affective disorder. The model identified none of the 46 who subsequently committed suicide. Secondly, in the oft-quoted Gotland study (Rutz et al, 1989) the reduction in the suicide rates after the education package was given to general practitioners must be seen in the context of falling suicide rates prior to the study and the recorded suicide rate being small. Crucially, the rate rose again after study and independent assessment was impossible due to the inconsistent presentation of the suicide data. Wilkinson supports MacDonald's comment that "its time for a moratorium on this idea that practitioners can prevent suicide" (MacDonald, 1992)

2) That political initiatives are incoherent and implausible.

Wilkinson argues here that there is great international heterogeneity with regard to definitions, causes, methods, rates, treatments policies and prevention policies. Moreover, as there is no convincing evidence that education, improved social conditions and support or better training play a substantive role in preventing suicide, the UK targets are implausible.

3) That treating mental illness is better than preventing suicide.

Wilkinson emphasises the fact that there is little in the way of evidence for primary preventative measures and calls for greater efforts to be made in secondary prevention i.e. identifying and treating mental illness properly. Wilkinson exhorts purchasers of health care to be aware of the lack of good evidence for the following resulting in any meaningful reduction in suicide rates :- targeting services for those who have deliberately self harmed; encouraging sensible reporting of suicide in the media education on mental health in schools; public policy on family and marital breakdown, unemployment and poverty .More controversially, Wilkinson maintains that there is no good evidence for influencing the means available in contrast to data published by e.g. Kendell (1998) which provides evidence of a substantial reduction in suicide rates by exhaust fumes in the UK following the introduction of catalytic converters.

In response to Wilkinson's thesis, Morgan (1994) has argued that "Prevention is possible if doctors are taught how". He is in partial agreement with Wilkinson in that "most people who commit suicide show evidence of psychological distress even mental illness in the period leading up to their deaths - this implies that medical help is probably relevant". Morgan goes on to detail how medical practitioners can practically contribute to suicide prevention.

Morgan cites the Gotland study (Rutz et al, 1989) as evidence for general practitioners ability to handle depression as well as other high risk conditions contributing to the fact that suicide is relatively uncommon. However, the limitations of this study are highlighted by Wilkinson above. Nevertheless, the relevance of the doctor's role in identifying suicide risk is emphasised by the finding that between half to two thirds of suicide victims see their doctor during the last months of their lives (Vassilas & Morgan, 1993).

Morgan lists several practical ways by which doctors can set about preventing suicide.

- 1) clinical evaluation
- 2) recognition of risk factors detailed above
- 3) acknowledging the way in which doctors can become alienated from those whose despair is camouflaged by challenging behaviour or who relapse despite the best efforts
- 4) discarding the notion that suicidal patients never discuss their suicidal thoughts

5) a re-examination of the management of depression including safe and effective use of antidepressant medication

6) establishing good working relationships with carers; in particular the use of appropriate intensive care of those whose suicide risk rises by means of therapeutic alliance rather than confrontation.

Most of all, Morgan calls for an acknowledgment of the efficacy of basic clinical skills such as a sympathetic ear, dependable support, quiet confidence and the ability to play for time.

Morgan quotes George Murphy in support of his argument :-

" if suicide is prevented the patient will live. Yet to quantify this effect is impossible. The absence of suicide generates no data. Thus we can never prove what had been accomplished, yet we can hardly doubt that it occurs" (Murphy, 1984).

A more recent contribution to the debate on how best to reduce suicide rates is that of Lewis et al (1997). Their quantitative study addresses the difference between population-based and high risk strategies of suicide prevention.

The premise of this work is that health and social services usually have little influence on population rates of disease.

This paper views some of the evidence quoted by Morgan from a different angle. For example, while half to two-thirds of suicides have seen their doctor in the months before their death (Vassilas & Morgan, 1993), the remainder have never been in contact with a psychiatric services.



This is underscored by Barraclough et al (1974) who reported that only a fifth had seen a psychiatrist in the month before suicide. This questions the effectiveness of health service intervention itself or whether these services are accurately targeted at those in greatest need.

Rose (1992) distinguished between high risk preventative strategies that identify groups at increased risk and the more radical population strategy. Risk factors for many diseases are widely spread in the population so the high risk method excludes a large number of people at moderate risk and is often ineffective in reducing the population burden of disease.

By contrast, population methods have relied upon reducing the availability of lethal methods. The best example of this is the association between phasing out of poisonous domestic gas in the UK and a reduction in suicide rate of 30% (Kreitman 1976). The confound of this is the likelihood of another method supervening in the long term.

Lewis et al (1997) used the method of population attributable fractions (PAFs) to quantify the impact of any one factor or group of factors on suicide (see systematic review below). The PAFs were calculated on theoretical interventions which would reduce the suicide rate by 25%.

In essence, high risk strategies such as targeting those recently discharged from psychiatric hospital and those presenting to general hospital for deliberate self harm resulted in relatively modest reductions in the population suicide rate (2.6% and 5.8% respectively). In contrast, the population strategy examined in this report e.g. unemployment carried a PAF of 10.9%.

Lewis et al conclude that major reductions in suicide are more likely to result from the pursuit of population based strategies such as limiting the availability of methods and reducing unemployment. High risk strategies are effective but only modestly so, the best being efficacious interventions for those who deliberately self harm.

This paper provides quantitative data on the two main approaches to suicide prevention (high risk and population-based) and uses an evidence based approach. However, there are limitations:- the calculations are based on theoretical levels of intervention and the relationship between unemployment and suicide is one which is subject to a number of confounds (see below).



In summary, the contemporary debate on the usefulness of targets and the effectiveness of various interventions in meeting these is unresolved. Several strategies emerge with varieties of data for and against them.

They can be distilled into:-

1) High risk strategies which are those involving health services; the role of doctors in identification and treatment of mental disorder; risk assessment; support, protection and follow up of the suicidal individual

2) Population-based strategies which involve public policy. Two areas where limiting the availability of methods has been effective are :

a) fitting catalytic converters to cars (Kendell, 1998), given the large increase in the proportion of deaths attributed to exhaust fumes (Charlton et al, 1992).

b) the evidence for the amount of paracetamol sold per pack being linked to the number of overdoses. This is supported by the French experience of a reduction of paracetamol deaths resulting from a limit on the size of paracetamol packs (Gunnell et al ,1997)

Other population based strategies such as public policy on family and marital breakdown, unemployment and poverty have less data backing them up and are subject to considerable confounders.

The most recent support for suicide reduction targets comes from McClure (1999) who showed a reductions in the suicide rate for both sexes between 1990 and 1997. One interpretation of this new and encouraging trend is that population-based strategies such as the above-mentioned fitting of catalytic converters have been successful in reducing suicide.

## 2.1. CLINICAL VARIABLES IN SUICIDE

However, caution must be applied in interpreting these results as the rate among young men remains high compared to twenty years ago.

Further, although the use of exhaust fumes is decreasing, suicide by hanging and strangulation increased in men. The use of population-based strategies in the fitting of catalytic converters is clear, but how this is applied to limiting the availability of methods with which to hang oneself is much less clear.

It is clear that there are a variety of techniques which have been employed to investigate suicide. These include horizontal techniques such as population based epidemiological investigation which aim to uncover generalizable risk factors and vertical methods which study individual cases in great detail to determine the presence of known risk factors and the individual reasons for suicide.

The following is a summary of the factors gleaned from both types of study technique. The aim is to highlight the most common findings from studies which have used a variety of research techniques e.g. the role of clinical factors which include psychiatric and psychological variables; the role of sociological factors; the role of physical ill health; and the more recent findings in the neurobiology of suicide. In addition, a systematic review of the literature was conducted on the specific technique of psychological autopsy.

## **2.1 CLINICAL VARIABLES IN SUICIDE**

Among the most replicated findings in suicide research is that of the presence of mental disorder in the deceased.

From the inception of major community based studies of suicide (e.g Robins et al, 1959; Dorpat and Ripley, 1960) until the present day (e.g Henriksson et al, 1993; Foster et al, 1997) the vast majority of suicides have been shown to have at least one mental disorder at the time of their death.

In addition to this consistency through time there is geographical concurrence with this finding. :- North America (Rich et al, 1986; Conwell et al, 1996) ; Europe (Barraclough et al, 1974; Arato et al, 1988; Henriksson et al, 1995) Australia (Chynoweth et al, 1980) and Asia (Cheng, 1995).

From a diagnostic perspective the conditions most frequently associated with suicide are depression and substance misuse, in particular alcoholism.

The key message from these temporally and geographically varied studies seems to be that suicide is rare among those with good mental and physical health and is more strongly associated with depression and alcoholism.

### **2.1.1 AFFECTIVE DISORDER**

#### **Unipolar Depression**

As discussed above, it is generally accepted that major depression is one of the most important risk factors for suicide (Black et al, 1990).

The lifetime risk of suicide in major depression has been estimated at 19%, or a suicide risk 30 times greater than the general population (Guze and Robins, 1970). This puts the mortality risk of this illness in a comparable league with many severe physical illnesses (Goodwin & Jamison, 1990).

Psychological autopsies of non-selected populations have indicated that those suffering from severe unipolar depression constitute between thirteen and seventy percent of all cases of suicide (Dorpat and Ripley, 1960; Barraclough et al, 1974; Beskow, 1979; Chynoweth et al, 1980; Shafii et al, 1985; Rich et al, 1986; Arato et al, 1988; Runeson, 1989; Marttunen et al, 1991; Henriksson et al, 1993).

While it is clear from these findings that depression is an important risk factor for suicide, it must be acknowledged that depression is among the commonest mental disorders and a minority of those suffering from depression go on to kill themselves. What feature, if any, can differentiate those with depression who take their own lives from those who do not?

## **Potentially discriminating features**

BarracloUGH (1974), BarracloUGH & Pallis (1975) and Modestin & Kopp (1988) found insomnia, impaired memory and self-neglect as well as greater overall severity of illness to be more common among depressed suicide victims. Fawcett et al's (1990) prospective cohort study found that there were two main groups of predictors: short-term and long-term.

The former comprised anhedonia, anxiety, impaired concentration and alcohol abuse. The latter consisted of hopelessness, mood cycling and a history of suicidal behaviour.

The increased severity of depressive illness has been associated with an increased risk of suicide (e.g. BarracloUGH and Pallis, 1975; Modestin and Kopp, 1988). In everyday clinical practice, psychotic symptoms tend to be associated with increased severity. Nevertheless, the part played by psychotic symptoms in the risk of suicide of those with depressive disorders is still open to debate.

Roose et al (1983) found delusions to be an important risk factor for suicide in depressed patients but both Coryell & Tsuang (1982) and Black et al (1988) found no such correlation. A more recent study found no major differences between psychotic and non-psychotic subgroups in socio-demographic features, comorbidity, clinical history or communication of suicidal intent (Isometsa et al, 1994). This study was the first to systematically examine a representative, non-selected population of suicide victims with DSM-III-R psychotic major depression using psychological autopsy.

One distinction noted by Isometsa et al (1994c) was that those with psychotic features were more likely to use violent methods in the suicidal act (88% vs. 59%). In the overall population sample, both psychotic and non-psychotic depressed were complicated by comorbid diagnoses.

### **Comorbidity**

Comorbidity refers to the situation wherein a patient has been diagnosed with an Axis I condition but suffers from either another Axis 1 condition or an Axis II condition contemporaneously e.g. major depression and substance misuse or bipolar disorder and borderline personality disorder. It can also refer to comorbid physical illness.

Comorbidity and its relationship to increased risk has been examined in several studies (Shafii et al, 1985; Brent et al, 1988; Runeson, 1989; Marttunen et al, 1991; Henriksson et al, 1993; McGlashan et al, 1987; Carlsson et al, 1991; Murphy et al, 1990; Murphy et al, 1992).

A recent study by Isometsa et al (1994b) found that 85% of a sample of suicides were complicated by comorbid diagnoses. This finding concurred with those of other studies which highlighted comorbidity (Rich et al, 1986; Rich et al, 1988; Martin et al, 1985). The comorbidity recorded in these studies varied with age and sex. For example, in the study by Isometsa et al (1994b) psychoactive substance abuse disorders were predominantly male problems and comorbid physical illnesses were much commoner in the elderly.

Age and sex variations in comorbidity do reflect similar variation in the base rates in the depressed populations as a whole. The extent and type of comorbidity in depressed suicides will be subject to the demographics of the sample examined.



## **Inadequate Treatment for Depression**

The other key issue in relation to suicide is that of the inadequate treatment of depressed patients both in clinical populations (Keller et al, 1982) and in the community populations (Weissman et al, 1981; Roberts and Vernon, 1982; Lehtinen et al, 1990).

More specifically, it has been reported that only the minority of suicide victims who do commit suicide receive antidepressant treatment (Rihmer et al, 1990; Modestin, 1985). The study by Isometsa et al (1994b) confirmed these earlier findings which highlight a treatment short - fall.

## **"Non-major" depression**

In both psychiatric clinical practice and general practice, milder depressive disorders which do not reach the diagnostic threshold for major depression probably rank among the commonest psychiatric conditions (Weissman et al, 1981; Roberts and Vernon, 1982; Blazer et al, 1988; Lehtinen et al, 1990 Angst et al, 1992; Johnsson et al, 1992; Maier et al, 1992).

As such these so-called mild depressive conditions present a burden to health care which is comparable to that of major depression (Johnsson et al, 1992). However, the contribution which these common conditions make to suicide risk is somewhat controversial. Miles (1977) claimed that suicide risk in so-called neurotic depression did not differ from that in major affective disorders, in contrast with Hagnell et al (1981) who found a higher risk among the more severely depressed.



From an epidemiological perspective, milder depression has been shown to be especially common in younger suicides (Shafii et al, 1988; Brent et al, 1989; Runeson, 1989; Marttunen et al 1991; Brent et al ,1993; Lesage et al ,1994). In common with other affective disorders, comorbidity both with other psychiatric disorders and with physical illnesses is also prevalent. One secular trend noted among those who die through suicide has been the increase in the proportion of comorbid "non-major" depression (Carlson et al, 1991).

Isometsa et al (1996a) compared depressive suicides who had unipolar depression which did not fulfil criteria for major depression with suicides who did. The vast majority (95%) of suicide victims with the former depression were comorbid with e.g alcoholism, personality disorder and/or physical illness.

The characteristics of those with " non-major" depression who died through suicide were listed by Isometsa et al (1996a) as follows:- younger people; there were more men; more substance abusers ; more 'secondary' depressives; less contact with health care services; less communication of suicidal intent despite contact with health care services ; more recent life events reported in the final week.

However, the extent to which these discriminate between major and "non-major" depression is debatable.

## **Bipolar affective disorder**

Despite having a life time risk of suicide comparable to that of unipolar depression (Weeke and Vaeth, 1986; Fawcett et al, 1987; Winokur and Black, 1987; Black et al, 1988; Goldstein et al, 1991; Newman and Bland, 1991), there has been little research specifically addressing the issue of suicide in those with of bipolar affective disorder (Goodwin and Jamison, 1990). Those studies which have been done suffer from selectivity or low numbers. Previous reports indicate that bipolars tend to commit suicide early in the course of the disease (Guze and Robins, 1970; Black et al, 1987; Weeke 1979; Black et al, 1985) and that there are no major differences between the sexes (Goodwin and Jamison, 1990). However, a recent Finnish study (Isometsa et al, 1994a) found that early suicides appear to be more common among male rather than female bipolars and the time from first treatment to suicide in the males was significantly shorter. Moreover, the proportion of late suicides in this study was higher and time from first treatment contact ranged up to 49 years. Roy-Byrne et al (1988) described similar findings relating to the most serious suicide attempts occurring late in the course of the illness.

The majority (71%) of the bipolar suicides were complicated by comorbidity, in particular alcohol dependence, which also reflected a sex difference with over half the male bipolars suffering from this but none of the females. This same sex difference in psychoactive substance abuse was found among unipolar suicide victims (Isometsa, 1994a).

The majority of the above studies report bipolars as having a major depressive episode immediately before death. However, it should be noted that mixed states have been particularly linked to high suicide risk although the prevalence of these mixed states is controversial (Goodwin and Jamison, 1990; Dilsaver et al, 1994; Strakowski et al, 1996). In addition, a last minute switch of mood state, a mood swing or an unrecognized depressed state is not always recorded or accounted for (Schweizer et al, 1988).

### **Life events in relation to unipolar and bipolar disorders**

It has been demonstrated that adverse life events constitute risk factors for both deliberate self harm and suicide itself (Paykel and Dowlatsani 1988; Heikkinen et al, 1993). In bipolar illness, life events not connected to the individual's own behaviour appear to be associated in time with the onset of the first episode of illness (Glassner et al, 1983; Ambelas, 1987), and a majority of controlled studies indicate an similar association with subsequent episodes (Sclare and Creed, 1990; Hunt et al, 1992; McPherson et al, 1993). As the illness progresses, the importance of adverse life events appears to decline (Post et al, 1992). A recent study which compared recent life events and suicide in bipolar and unipolar patients found a majority of both bipolar and unipolar suicides to have suffered adverse life events during their last three months (Isometsa et al, 1995a).

In contrast, however, to unipolar cases, the stressors affecting bipolars appear to have more dependent on their own behaviour. There was also a sex difference with more male bipolar suicide victims experiencing adversity than females.

Both the unipolar and the bipolar group appeared to have a clustering of life events in the week prior to the suicidal act, implying some form of trigger. Whatever the mechanism, there is the possibility that an adverse life event during an illness episode increases the risk of suicide in the patient. This has implications for treatment and suicide prevention in this patient group: e.g. awareness among health care workers of the importance of adversity in exacerbating affective illness; availability of staff during such events or in their aftermath, in order to de-escalate a potential crisis; availability of crisis admission if necessary.

Along with many studies in the field of suicide research, a major confound is the lack of living control populations with which to make valid comparisons.

## Psychological factors

One aspect of affective disorder which has received particular research attention in relation to suicide is hopelessness.

The relationship between extreme pessimism or hopelessness and suicidal intent has traditionally been regarded as a close one (Beck et al 1975; Cole 1980; Minkoff et al 1973; and Wetzel et al 1980) and clinical strategies for alleviating hopelessness have been found to be useful for countering the suicidal crisis (Beck et al 1979).

What is unclear is whether all suicidal thinking is related to hopelessness. One study which examined this issue concluded that factors other than hopelessness are relevant for understanding suicidal ideation (Mendonca and Holden, 1996). Self-reported "unusual thinking" was found to be the most important predictor of various aspects of suicidal intent in their sample. The definition of "unusual thinking" is a cognitive distortion which involves feelings of loss of control over one's thoughts.

The findings imply that this aspect of cognitive distortion may be an important predictor and thus its evaluation may be integral to the assessment of suicidal ideation and risk. However, unusual thinking is regarded as a *state* related to current risk rather than a *trait* variable such as pessimistic attitude, problem-solving rigidity or perfectionism all of which have been implicated in the long-term risk of suicide (Hewitt et al, 1994; Beck et al, 1990; Linehan, 1987).

Mendonca and Holden (1996) also found that a preoccupation with a method of self-harm was significantly associated with hopelessness for depressed patients but not for subgroups of personality disorder, anxiety disorder or substance abuse. The question of the latter co-existing with depression remains to be addressed.

Lonnqvist et al (1995) also employed a psychological perspective on suicide. This view led to the description of a triad of common features in those who commit suicide which are associated with mental disorders in general, but with depression in particular.

- 1) the common stimulus in suicide is intolerable psychological pain
- 2) the common emotion in suicide is hopelessness/helplessness
- 3) the common cognitive state in suicide is constriction.



## Summary

Affective disorders constitute one of the major risk factors for suicide. Some factors emerge which may help highlight those at increased risk of suicide.

1) Severity of illness, insomnia, impaired memory and self-neglect

2) short-term and long-term predictors :-

short-term : anhedonia, anxiety, impaired concentration and alcohol abuse.

long-term : hopelessness, mood cycling and a history of suicidal behaviour

3) comorbidity is frequently reported in all forms of affective disorder in relation and the type of comorbid conditions is a function of age and sex.

4) inadequate treatment of affective disorders remains problematical and may increase risk.

5) recognition that affective illness not reaching the threshold for major depression, still constitutes a suicide risk.

6) awareness of the risk associated with bipolar disorder; in particular, vigilance with respect to mixed affective states and comorbid conditions.

7) the relevance to suicide risk of adverse life events

8) the potential value in reducing suicide risk of monitoring and engaging with hopelessness, rigidity and perfectionism.



### **2.1.2 SCHIZOPHRENIA**

Bleuler (1950) described the suicidal drive or intent as:

“the most serious of schizophrenic symptoms”.

Follow-up studies over the last 50 years have confirmed that schizophrenia is associated with an increased risk of suicide. Estimates of this risk are of the order of 10-15% (Niskanen et al, 1975; Miles, 1977; Winokur et al, 1975; Tsuang et al, 1978; Black et al, 1985).

These estimates have been supported in psychological autopsy studies (Robins et al 1959; Barraclough et al 1974; Chynoweth et al 1980; Arato et al 1988; Rich et al 1988; Cheng 1995).

Several risk factors appear with regularity in the literature. These relate particularly to age, sex and the presence of comorbid depression (Allebeck, 1989; Caldwell and Gottesman, 1990).

Drake and Cotton (1984) described a more detailed list of risk factors :-

- 1) Young and male
- 2) relapsing pattern of illness
- 3) past history of depression
- 4) current depressive illness comorbid with schizophrenia
- 5) admitted during their last contact with psychiatry with depression and/or suicidal ideation
- 6) recent discharge from in-patient care to out-patient care
- 7) social isolation in the community.

Several other studies back up these findings i.e young adults, male sex and mean illness duration of under 10 years.

(Roy 1982; Breier & Astrachan 1984; Drake et al 1984; Allebeck et al, 1987; Hu et al, 1991; Modestin et al , 1992)

However, the data indicating that suicide in schizophrenia tends to be age dependent - i.e. young adults - has been recently been challenged by Heila et al (1997) in their unselected psychological autopsy study. This study found that suicides occurred over a large range of age and illness duration. Suicides occurred throughout the entire course of schizophrenia, although most were during active illness.

### **Comorbidity**

There is consistent evidence of association between depression and suicide in schizophrenia. Schizophrenic suicides have been shown to present with depressed mood as well as other features of depression, during their index admission to hospital. However, they are not more likely to fulfil criteria for major depression. Schizophrenics tend to show the psychological features of depressive illness e.g hopelessness but less of the somatic features (Drake & Cotton, 1986). Depression and hopelessness appear to be important comorbid risk factors for suicide in schizophrenia (Roy 1982). Poor physical health has also been reported as important risk factor (Bolin et al, 1968; Stensman & Sundqvist-Stensman, 1988)

Heila et al (1997) reported on comorbidity: in women depressive symptoms and suicide attempts during the year before suicide were most common for suicide victims in age group 33-44 years; in men middle age was associated with lowest rate of depressive symptoms but the highest rates for alcoholism. Overall, Heila et al reported a rate of depression of 64% in keeping with previous findings (Roy 1982; Drake et al 1984; Hu et al 1991; Cannon et al 1991; Drake & Cotton 1986; Yarden 1974; Virkkunen 1974).

With respect to rates of comorbid alcohol and other substance abuse, these are rarely reported in the context of schizophrenic suicides. The highest rates have been reported by Rich et al (1988) who found as many as 73% exhibiting comorbid substance abuse. This was a psychological autopsy study. Other studies have been record-based (Roy 1982; Allebeck et al 1987) and these reported lower rates of comorbid alcoholism i.e. 3-19%. Demographic variables such age, sex and urban vs rural populations may also explain these differences.

### **Duration of illness, the post-discharge period and other factors.**

The risk factors identified for suicide in schizophrenia do not appear to have sufficient sensitivity and specificity to help practitioners to focus upon high-risk groups of individuals and to thus target preventative interventions. Attempts have been made to improve this.

Rossau and Mortensen (1997) conducted a nested case-control study to determine risk factors for suicide in schizophrenic patients. The principal finding of this study was the close relationship between factors related to the course of hospitalisation, the duration of illness and the suicide risk. Rossau & Mortensen noted a decrease in suicide risk with increasing duration of illness. This replicates findings of Virkkunen (1974) as well as their own previous findings (Mortensen & Juel, 1993).

Suicide risk was highest during the first 5 days following discharge. Risk of suicide was also associated with :- multiple admissions during the first year, previous suicide attempts, previous diagnosis of depression, male gender and previous admissions to hospital for physical disorders.

There was also a suggestion of excess suicides during temporary leave of absence from psychiatric departments. Copas and Robin (1982) in a study of in-patient suicides also found increased suicide risk in the first week of admission. A risk which declined thereafter.

Roy (1982) found that 30% of suicides among discharged schizophrenic patients occurred within the first month post-discharge.

Appleby (1992) concluded that maximum risk of suicide in psychiatric patients occurs at two time points :-

- 1) start of the acute phase
- 2) post discharge - especially in the first three months.

In summary, Rossau & Mortensen (1997) claim that a change from longer, less frequent stays in hospital to shorter periods of admission with more frequent readmissions may conspire to increase the suicide risk in schizophrenic patients.

Niskanen et al (1974) also noted a relatively large proportion of suicides among schizophrenics occurring during temporary leave from the ward.

Rossau and Mortensen make the point that this combined with the increased risk in immediate post discharge period imply that the transition period between hospital and community may be an especially vulnerable one.

### **Communication of intent**

Received clinical wisdom has stated that schizophrenic suicides tend to be impulsive and not related to the communication of intent. However, in a recent paper Heila et al (1998) found that communication of intent and/or previous deliberate self harm occurred at least as often in those suicides with schizophrenia as in those without this diagnosis, even in the active phase of the illness.

## Insight

Some researchers have suggested that patients with insight into their illness are at greater risk of suicidal behaviour (Faberow et al, 1965; Warnes, 1968 Drake et al, 1984 Cotton et al, 1985). These individuals can develop a sense of hopelessness and demoralisation - leading to suicidal behaviour.

Amador et al (1996) assessed 218 schizophrenic patients with the Scale to Assess Unawareness of Mental Disorder. The prevalence of suicidal thoughts and behaviour was consistent with previous published data (see above). Those patients with recurrent suicidal thoughts and behaviour were generally more aware of their negative symptoms and delusions than were non-suicidal patients. This implies that their apparently greater insight was in some way linked to their suicidality. However, a general awareness of having a mental disorder did not predict suicidal behaviour. This report partially supports the notion that insight may be associated with greater suicidality.

Overall, research to date indicates that improvement of the awareness of illness should be tempered with caution with regard to the effects of such increased awareness on patient's degree of demoralisation, self-concept and hopelessness about the future.

### **2.1.3 NEUROSES**

Anxiety and panic disorders have been associated with suicidal ideation and suicide attempts, but whether there is a causal link is unclear.

(Weissman et al, 1989; Friedman et al, 1992; Beck et al, 1991).

Approximately 20% of deaths among those previously hospitalised with anxiety disorders are suicides, a figure comparable to the mortality in depressive disorders (Coryell, 1988; Noyes, 1991)

One of the largest studies in this area examined suicide and mortality patterns in anxiety neurosis and depressive neurosis which had no comorbidity with other psychiatric diagnoses (Allgulander, 1994).

Standardised mortality ratios of suicide before age 45 among men and women with anxiety neurosis was 6.7 and 4.9 respectively; and for depressive neurosis was 12.6 and 15.7 respectively.

The risk of completed suicide among former in-patients with primary anxiety neurosis was higher than in previous smaller studies.

The risk was higher still in those with depressive neurosis.

With respect to panic disorder, in the Epidemiologic Catchment Area (ECA) study (Johnson et al 1990) increased risk of suicide attempts was found among cases with a history of uncomplicated panic disorder but in other studies (Manuzza et al, 1992; Friedman et al, 1992; Rudd et al, 1993; Lepine et al, 1993; Cox et al, 1994) and in the reanalysis of the ECA data (Hornig & McNally, 1995), this possible risk was associated with comorbid psychopathology.



Follow up studies of those treated for panic disorder (Coryell et al, 1982; Noyes et al, 1991) or any anxiety disorder (Sims 1984; Allgulander & Lavori 1991; Allgulander 1994) have not found the current mental disorder as an immediate antecedent to suicide. The apparent increase in risk associated with panic disorder may be linked to the presence of comorbid depression, substance abuse or combinations of these. As part of a nationwide psychological autopsy study, Henriksson et al (1996) identified a group of 17 suicide victims from a study of all suicides in Finland over the period of one year (n=1397). The prevalence of panic disorder was higher among females than males. One hundred per cent suffered from comorbid axis I diagnoses and 47% from axis II. The over-riding impression from this study was that suicide in those with panic disorder was associated with comorbid major depression, substance abuse and personality disorder. While Allgulander suggests that the significant hazard of suicide may be reduced by optimising immediate and long-term treatment for the severely afflicted, the recognition of panic disorder patients at risk of suicide also requires assessment and monitoring of the overall psychopathology.

#### **2.1.4 DRUG MISUSE**

Carlson et al (1991) have suggested that the contemporary increase in substance misuse among young people may contribute to the increase in young male suicides. Substance misuse is associated with a 15-fold increased suicide risk (Shaffer et al, 1996) and among intravenous substance users, suicide accounts for 35% of deaths (Frischer et al, 1993).

Overall, among young suicides in the USA, 53% meet the diagnostic criteria for substance misuse (Fowler et al , 1986). The difficulty for researchers in this area is that substance misuse varies widely in its seriousness from occasional cannabis taking to regular intravenous abuse. Moreover, studies do not always distinguish between abuse and dependence (Brent et al 1993; Shaffer et al 1996) or between alcohol and other drug misuse (Carlson et al 1991). Another problem concerning the relationship between substance misuse and suicide is that of ascertainment. Suicide by self-poisoning is a method frequently used by addicts (Engstrom et al 1991) and is under-registered (Neeleman & Wessely 1997a). Those addicted to opiates who experience non-fatal overdoses are unlikely to seek help ( Darke et al 1996) and are thus not registered in official databases. Consequently, studies which examine only official suicide records can be confounded by selection bias and the true underlying rate of suicide among this vulnerable group can be under-estimated.

In common with suicide research in general, studies which concentrate on substance misuse fall into two main groups:- psychological autopsy studies and cohort studies.

Psychological autopsy studies can give risk estimates only if population controls are also examined. In general terms, few studies, and none for the UK, are designed in this way (Brent et al,1993; Shaffer et al 1996).

Although there is a consensus that substance misuse constitutes a major risk factor for suicide among young people, there is controversy as to whether it is more (Fowler et al 1986) or less (Brent et al 1993) prevalent than depression.

The other area of debate centres on the extent of comorbidity with substance misuse in suicide victims: estimates range from 44% (Brent et al 1993) to 100% (Shaffer et al 1996).

One of the key psychological autopsy studies in this area was the the San Diego Suicide Study (1981) which was instigated to investigate suicides among young people. The project involved a series of psychological autopsy studies examining a variety possible risk factors for suicide including the relationship between substance abuse and suicide in young people (Fowler et al 1986; see above ) and the interactions between diagnoses (substance abuse and depression) and stressors (Rich et al, 1988). This study demonstrated that interpersonal loss or conflict occurred more frequently near the time of death for substance abusers with/without depression than for those with affective disorder alone.

These results are consistent with other results in this area (Murphy & Robins, 1967; Murphy et al , 1979) and suggest that there may be differences in the manner with which suicidal individuals with substance abuse and those with affective illness alone respond to external stressors.

There is also evidence that those dependent on alcohol or other substances are confronted with a broader range of stressors than those with mood or anxiety disorder sufferers who commit suicide (Murphy & Robins, 1967; Murphy et al 1979; Rich et al 1988).

In a landmark investigation using psychological autopsy, Murphy and Robins (1967) noted that suicide associated with alcoholism and substance abuse was preceded more often by interpersonal loss and conflict six weeks prior to death.

In a more recent study, this close association of adverse stressors and substance misuse with suicide was confirmed. Duberstein et al (1993) found that in the weeks prior to death those with substance abuse disorders/alcoholism experienced more in the way of conflicts/arguments and attachment disruptions.

In terms of prospective cohort studies, suicide's relative rarity means that cohorts are often specific e.g. parasuicide (Hawton et al, 1993) or psychiatric patients (Allgulander et al , 1992). Among these studies, that by Hawton et al (1993) provides one of the most significant findings, namely that substance misuse in parasuicide patients is the best predictor of eventual suicide. This is emphasised by Rossow (1994) who estimated the suicide rate among intravenous drug users to be thirty times that in the general population.

Cross sectional studies have further supported these associations e.g. Deykin & Buka (1994) calculated that substance misusers have a risk of parasuicide seven times greater than that of the general population and Shaffer et al (1996) estimated the risk of completed suicide in this group to be fifteen times greater.

With these figures in mind, Neeleman & Wessely (1997b) have hypothesised that substance misuse is associated with greater chance of death by suicide because of the dangerousness of the methods and substances used by the victims.

The overall impact of substance misuse and dependence on national suicide rates has not been accurately calculated and this is most probably due to the sparsity of information available on population prevalence (Gunnell & Frankel, 1994).

There is a similar dearth of information on which processes would be effective in reducing the extent of drug misuse in contemporary society. The question also arises as to whether this in itself would be sufficient to reduce the suicide rate.

The mechanisms whereby drug misuse leads to an increased risk of suicide are far from clear. Neeleman & Farrell (1997) have highlighted three possible areas:-

- 1) The role of comorbid conditions such as depression in lowering the threshold for suicide in substance misuse
- 2) depression and substance misuse may result from a common primary source such as personality disorder
- 3) substance misuse of itself may lead to suicide due to impulsive behaviour.

Neeleman and Farrell (1997) conclude by highlighting the need for further research on how suicide and substance misuse interact with age, gender, comorbid conditions, substances misused and sociocultural environment.

### **2.1.5 ALCOHOL**

Alcoholism is a disorder with an increased risk of suicide and has been reported to account for approximately one quarter of suicides studied from a diagnostic perspective (Robins et al, 1959; Dorpat & Ripley, 1960; Barraclough et al, 1974; Beskow, 1977; Hagnell & Rorsman, 1980; Chynoweth et al, 1980; Rich et al, 1986; Arato et al, 1988; Asgard, 1990) Murphy and Wetzel (1990) comprehensively reviewed the world literature and concluded that the lifetime risk varied according to the type of treatment received. For those with a history of out-patient treatment the lifetime risk was 2.2% and for those with a history of in-patient care, the lifetime risk was higher at 3.4%. This represents a lifetime risk 60-120 times greater than that of the non-psychiatrically ill in the general population.

There is an intimate relationship between alcohol and other drug misuse. Data from the Epidemiologic Catchment Area (ECA) study showed that among those with alcohol disorders, 21.5% also had a drug abuse or dependence diagnosis; among those with drug abuse or dependence 47.3% also had an alcohol disorder (Regier et al 1990).





Risk factors for suicide among those suffering from alcohol dependence include the following:-

### **1) Gender.**

The sex ratio in alcohol dependence is estimated at male: female = 5:1 (Goodwin, 1982; Robins et al, 1984)

Barraclough et al (1974) found the same sex ratio among their alcoholic suicide victims as was found in a survey of alcoholics i.e. 4:1 and thus concluded that " the sex of an alcoholic does not apparently predispose to suicide of itself". However, both Berglund (1984) and Nicholls et al (1974) found that male alcoholics had a suicide rate twice that of female alcoholics.

### **2) Age**

In five studies (Robins et al ,1959; Ritson, 1968; Barraclough et al, 1974; Murphy et al, 1979; Chynoweth et al, 1980) recording age, the mean age of alcoholics who killed themselves was 46.8 years. Suicide is a late phenomenon in the course of alcoholism with abusive drinking being established for many years. In addition, the suicide risk is not evenly distributed over the course of the illness with the peak incidence of suicide in the middle to late forties. In summary both age and duration of alcoholism make a contribution to suicide risk (Murphy & Wetzel, 1990).

### **3) Marital status**

Barraclough et al (1974) found more of their alcoholic suicide victims were divorced than living alcoholics and a similarly higher proportion were widowed compared to the living alcoholics. They concluded that "the loss of a spouse may predispose the alcoholic to suicide".

Virkkunen et al (1971) found a greater proportion of divorced and fewer married people among alcoholic as opposed to other suicides.

### **4) Depression and alcohol dependence**

Depression is common among alcoholics (Roy et al, 1991; Roy & Linnoila 1992). The incidence of depression using various criteria, has ranged from 28% to 59% (Cadoret & Winokur, 1974; Weissman & Myers, 1980; Weissman et al, 1977; Winokur, 1972; Woodruff et al 1973; Murphy et al , 1992).

Nevertheless, how often alcoholic suicide victims have developed an associated depression during which they commit suicide has been little studied. In four studies (Virkkunen, 1971; Barraclough et al, 1974; Murphy et al, 1979; Chynoweth et al, 1980) which did examine this (with a total of 111 suicide victims) 56.8% victims were assessed as having an associated depressive syndrome.

There is evidence that the presence of depressive symptoms has an additive effect with regard to the risk of suicide in patients suffering from alcoholism. One such study calculated that in the total sample of alcoholics, the risk for suicide was 7% during the follow up period; but this increased to 9% if depression/dysphoria had been present at the first admission (Berglund, 1984).

Roy et al (1991) specifically examined the question of depression among alcoholics. In this study 33% had a history of major depression (n=399). They found that the depressed, compared to never-depressed alcoholics, had a higher daily intake of alcohol, more lifetime diagnoses of other anxiety and affective syndromes and of drug misuse. There was also a greater number of previous deliberate self harm attempts and more reported alcoholism in both parents.

Murphy et al (1992) emphasised the significance of major depression in the context of alcoholism and, in their study of 50 alcoholics who committed suicide, found comorbid major depression in 58%. They concluded that the depression was "the single factor most contributory to suicide".

It is important to relate this aspect of alcoholism to (1) above i.e. gender. There are clear differences between male and female alcoholics in relation to family history of mental disorder, drinking behaviour and the consequences of alcohol abuse (Linnoila et al 1980; Beckman, 1975). Some of these gender differences have been attributed to the relative rates between the sexes of different subtypes of secondary alcoholism.

Schuckit and Morrissey (1976) found the major secondary alcoholic subtype among men was the sociopathic alcoholic subtype while that among women was the affective disorder subtype.

### **Other factors**

With regard to life events, a significant proportion experience loss of a close interpersonal relationship in the year before death and a smaller, but significant proportion, in their last six months (Murphy et al, 1979) replicating previous findings (Murphy and Robins, 1967).

In addition, approximately one third of alcoholic suicides have made a previous attempt (Roy and Linnoila, 1986). One study found that 1 in 5 had attempted suicide and that both male and female alcoholic suicide attempters were more likely to have had an episode of major depression or to have antisocial personality disorder. Males were also significantly more likely to have abused drugs, have panic disorder, phobias and generalised anxiety disorder (Roy, 1989).

These findings suggest that the alcoholic who attempts suicide manifests greater psychopathology than the alcoholic who never does so.

A problem with studies specifically aiming to improve the prediction of suicide is that they can predict too many false negatives and false positives to be clinically useful.

Multiple risk factors predict suicide in alcohol dependence. One study (Murphy et al, 1992) identified seven features that appear to be intimately linked to suicide.i.e:-

- continued drinking
- major depressive episode
- suicidal communication
- poor social support
- serious medical illness
- unemployment
- living alone

All these factors were significantly more common among subsequent completed suicides than among controls. Comorbidity is important especially with regard to depression which may be related to recent interpersonal loss. The identification of groups of risk factors means that alcohol dependent patients can be, potentially, more easily monitored for increased risk and treatment of any comorbid depression may reduce the risk of suicide.

### **2.1.6 PERSONALITY DISORDER**

Approximately 6-13% of the general population are estimated to suffer from personality disorders (Weissman, 1990; Samuels et al, 1994). However, there are widely variable rates of such morbidity from 3% (Chynoweth et al 1980 ) to 57.3% (Lesage et al ,1994) and at least some of these disorders are associated with greater mortality due to suicide (Pokorny, 1983; Black et al, 1985; Allebeck et al 1988; Allebeck & Allgulander, 1990). This association of personality with suicide is not surprising in that personality disorder can lead to an lifetime of alienation in some, an increased risk of substance misuse and impaired social and protective networks in others (Cheng et al 1997).

As in other areas of suicide research, there is a dearth of controlled psychological autopsy studies.

Lesage et al (1994) conducted a case control study in Montreal and Quebec in which they applied DSM III R criteria. The study included young male suicides only and reported an overall prevalence of personality disorder of 57.3%. The risk for suicide was significant for borderline and antisocial personality types.

Isometsa et al (1996c) used a case control design to examine the characteristics of suicide among those with personality disorders. The cases were age and sex matched with suicide victims without personality disorder.

This study was part of a larger psychological autopsy project examining various potential antecedents to suicide in Finland. All those suicides with axis II diagnoses were investigated (n=66). The authors divided the deceased into clusters A, B and C. Cluster A represented "oddness or eccentricity" ; cluster B were "dramatic, emotional or erratic" and cluster C were "anxious or fearful".

In this study all suicide victims with a personality disorder received at least one axis I diagnosis; in 95% of cases this was a depressive disorder, psychoactive substance abuse or both.

Suicide victims with cluster B personality disorder were more likely than controls to have psychoactive substance abuse disorders, previous episodes of deliberate self harm and less likely to have physical ill health. Those with cluster C disorders did not differ significantly from the controls. There was only one suicide victim who met criteria for cluster A.

Cheng et al (1997) investigated the relationship between personality disorder and suicide. This was a case controlled psychological autopsy conducted in East Taiwan. Each case (n=113) was matched with two control groups for age, sex and residential area. The prevalence of personality disorder in this study was 46.7-76.7% using the ICD 10 classification. The most prevalent category and that with the most significant suicide risk was emotionally unstable personality disorder (both impulsive and borderline types).

Cheng et al (1997) also reported that the highest risk of suicide was in emotionally unstable personality disorder comorbid with severe depression.



Other controlled psychological autopsies have focused only on adolescents (Shafii et al, 1988; Brent et al, 1994) and were not specifically focused on personality disorders. Both showed high levels of comorbid disorders in cases compared with controls.

Overall, the majority of studies of suicide among those with personality disorders have concentrated on borderline personality disorder (Pope et al, 1983; McGlashan, 1986; McGlashan, 1987; Gardner & Cowdry, 1985; Stone, 1990; Paris et al, 1987; Paris et al, 1988; Paris et al, 1989; Andreoli et al, 1989; Modestin & Villiger, 1989; Links et al, 1990; Kjellsberg et al, 1991). Stone (1990) and Kjellsberg (1991) have indicated that the suicide risk in this group may be higher for men than women. Comorbidity with affective disorders (McGlashan, 1987), substance misuse (Rich et al, 1992) or both (Lesage et al, 1994; Brent et al, 1994; Stone, 1990) has been associated with increased risk of suicide in those with borderline personality disorder.

However, the issue of comorbidity is controversial. Controlled studies comparing borderline patients who have committed suicide with living controls have not supported the role of comorbidity in the suicide process (Kjellsberg et al, 1991; Kullgren, 1988; Paris, 1990). This same group of studies have reported deliberate self harm history (especially multiple and/or severe episodes) as being higher in borderline suicide victims than in living comparison groups. One study (Modestin, 1989) reported similar findings but the comparison group was those with non-specified personality disorder.

The other main focus of interest in this area is antisocial personality disorder whose lifetime risk has been estimated at 5% (Miles, 1977). Psychological autopsy studies by the San Diego group (Rich et al, 1986; Rich et al, 1992) and an examination of axis 1 and axis 2 diagnoses in young suicides (Runeson, 1989) found that the majority of suicides with antisocial personality disorder also fulfilled DSM III criteria for borderline personality disorder. The suicide risk specifically associated with antisocial personality disorder is not established.

In contrast with diagnostic categories, few studies have examined psychosocial factors as they relate to suicide in personality disorder (Lesage et al, 1994; Stone, 1993; Kjelsberg et al, 1991).

In a case controlled psychological autopsy, Heikkinen et al (1997) specifically examined the relationships between various psychosocial factors and personality disorder. Controls were age and sex matched suicide victims without personality disorder. Four statistically significant differences were reported :- more suicide victims in the personality disorder group had lived alone; those with personality disorder were more likely to have lived in urban areas; the personality disorder group more often had a companion of the opposite sex than did the control group and parental psychiatric admission during the victim's childhood was, surprisingly, less common in the personality disorder group. Among the latter group, complaints of loneliness were strongly associated with interpersonal crises.

The authors conclude that living alone and suicide threats among those complaining of loneliness highlight potential increases in suicide risk in those with personality disorder.

There are a number of limitations in the studies of personality disorders as they relate to suicide. Most outcome studies have concentrated on in-patient populations (Perry, 1993) which raises the question of representativeness. Differing diagnostic techniques make the comparison of findings difficult (Zimmerman, 1994). As described above, comorbidity is an important issue in personality disorder; particularly in terms of depression and substance misuse. However, only a minority of psychological autopsy studies report on comorbidity.

Although there are specific problems in interpreting the available data, it has been suggested that common personality characteristics, namely impulsivity and violent tendencies, may operate in both suicide attempters and completers (Brent et al, 1993). This common thread has been partially supported by preliminary biochemical (Roy & Linnoila, 1988) and molecular genetic findings (Nielsen et al, 1994) which highlight an associations between serotonergic dysfunction, impulsiveness, violence and suicidal behaviour. The nature of the association, however, is unclear and significant confounds remain to be addressed.

## **2.2 SUICIDE IN SPECIAL GROUPS**

### **2.2.1 PSYCHIATRIC PATIENTS**

Those studies which have compared psychiatric patients who have killed themselves with those who have not have identified several social and clinical characteristics. These studies are essentially observational and have not been hypothesis-driven.

**See Table 3.**

Barraclough and Pallis (1975) asked the question :-"which type of depressed patient commits suicide?" They found significantly more of the suicides were unmarried, lived alone and had a history of deliberate self harm. These characteristics are similar to a case control study of risk factors for suicide in psychiatric patients in general (Roy, 1982).

Paykel (1969) and Brown & Harris (1978) have shown that life events, especially those involving loss, are associated with the development of depression. Roy's 1982 study indicates that depression resulting from adversity can compound the suicide risk in those who already have certain risk factors e.g past suicide attempt; chronic psychiatric disorder; recent admission; living alone; being unemployed; unmarried.

Study	Diagnosis	No.	Positive Associations
Flood & Seager 1968	all	97	psychotic depression, DSH, widowhood low social class
Robin et al 1968	all	33	depression, alcoholism, DSH, poor work record (males)
Rorsmann 1973	all	45	affective disorder (males), DSH, divorce (females), living alone (females)
Myers & Neal 1978	all	100	DSH, unmarried (divorced, widowed, single)
Roy 1982a	all	90	schizophrenia, bipolar, DSH, unmarried (divorced, widowed, single), living alone
Roy 1982b	SCZ	30	past depression, unemployment
Allebeck et al 1987	SCZ	32	alcoholism, DSH, single (women), living alone
Drake & Cotton 1986	SCZ	1-5	hopelessness
Cohen et al 1990	SCZ	8	past affective or schizoaffective, depressed mood, hopelessness, obsessions, hostility, paranoia
Fawcett et al 1990	Affective	32	suicide before 1 year, anxiety, panic, insomnia, anhedonia, loss of concentration, alcohol abuse
Berglund 1984	Alcoholism	88	past depression

SCZ=schizophrenia; DSH=deliberate self harm

Table 3

In a recent case control study, those psychiatric in-patients at particular risk had previously exhibited suicidal behaviour, suffered from schizophrenia, were admitted involuntarily and lived alone (Roy & Draper, 1995). Dennehy et al (1996) conducted a case-controlled study of suicide by discharged psychiatric patients based on medical records. They concluded that once age, sex and diagnosis had been controlled for, the conventional risk factors of being unmarried; being unemployed; living alone; exhibiting substance misuse and a previous history of deliberate self harm, were common to cases and controls and may be characteristic of people with mental illness generally.

Predictive of subsequent suicide was expression of suicidal ideas post discharge and detention under the Mental Health Act. However, the reliance on retrospective case note examination limits the interpretation of these findings.

The apparent reduction in male standardised mortality ratios, are likely to reflect the fact that young males, whose suicide rates in the general population are rising, are not in contact with health services at all prior to suicide (Vassilas and Morgan, 1993).

The immediate period when changing from in-patient to out-patient care is one of increased risk for suicide. The most dangerous period in question appears to be in the first month post-discharge. This emphasises the need for targeted post-discharge care, especially against the contemporary trend toward reducing in-patient beds and shorter in-patient stay in hospital (Geddes & Juszczak, 1995).



Goldacre et al (1993) in their seminal study found significant clustering of suicide soon after discharge from psychiatric care. This study quantified suicide risk within a year of psychiatric discharge in a population-based study. Among male patients the SMR for suicide in the first 28 days post-discharge was 213 for males and 134 for females. With regard to possible prevention they suggested audit of suicides following discharge in order to identify those at highest risk.

Few studies have examined variables which potentially protect against suicide. Linehan et al (1983) conducted a study which compared psychiatric in-patients who had thought about suicide with others who had deliberately harmed themselves. A "reasons for living" inventory based on a survey of "street sample" non-psychiatric subjects was employed. The commonest reasons for not attempting suicide were:- concern for children, religious beliefs and fear of pain.

As Appleby (1992) pointed out in his review, protective factors are under-researched but are likely to be concentrated in the nature of psychiatric care provision. The role of psychiatric care in protection against suicide is important because:-

- 1) it is involved in the care and treatment of patients with mental disorder - in and of itself, the greatest risk factor for suicide.
- 2) psychiatric care can be altered in terms of increasing the effectiveness of prophylactic measures
- 3) recent changes in the delivery of care may lead to changes in the risk of suicide in those cases of mental disorder which come under its remit.



In terms of the latter point, the change of the delivery of care towards community care is important with regard to the time-scale over which the patient can be monitored and also with respect to availability of acute beds for emergency admission.

Therefore, an indication of when the risk of suicide is at its highest would be of particular help in directing services for psychiatric in-patients and those recently discharged to the community.

However, Appleby (1992) maintains that there is no single point during the course of a chronic psychiatric illness when suicide risk is at its highest.

However, the first few years of illness appear to be a period of particular risk. Within the course of an episode, the maximum danger appears to be concentrated at two points:-

- 1) at the beginning of the acute phase
- 2) after in-patient discharge

It may, therefore, be important to target care and intervention in those periods spent outwith in-patient care.

The advent of community care has raised the question of whether community-based and under-resourced hospital care can cumulatively influence suicide rates.

Cohen et al (1990) contrasted two forms of community care and found no difference in the rate of suicide. Studies on suicides from different treatment settings usually report higher rates among out-patients.

However, these studies contain no suitable controls and, therefore, their relevance to the estimation of risk is limited.

Perhaps of more use are the reports on duration of out-patient care.

These have consistently found that the period of greatest risk is when the patient moves from being an in-patient to being an out-patient.

Appleby (1992) offers several explanations for these findings.

- 1) coincidence - care transition or transfer may occur at points in the illness when the risk is highest
- 2) loss of prevention - an abrupt lessening of supervision
- 3) exacerbation - major changes in care may place stresses on patients thereby increasing risk.

The Care Programme Approach clearly makes a priority of detained patients and regular risk assessment. The findings of Dennehy et al (1996) concur with these priorities but they highlight the fact that most of their sample of people who had committed suicide had no key worker. Moreover, approximately half of the suicide sample were not recorded as being suicidal in the notes. In addition, in almost half of those who had expressed suicidal ideation, supervision and/or treatment remained unchanged.

In respect of the expression of suicidal ideation, two of the earlier psychological autopsy studies (Robins et al 1959; Barraclough et al , 1974) confirmed that suicides, as a rule, inform someone of their intent directly or indirectly.

In the study of suicides among psychiatric in-patients carried out by Morgan & Stanton (1997), direct enquiry of clinicians found that 83% of suicides were recognised as having suicidal ideas.

This shows a marked increase when compared to the sample analysed by Dennehy et al (1996) and to the previous sample analysed by Morgan & Priest (1991) - approximately 50% and 74% respectively.

Different studies have attempted to discern the effects of communication of suicidal intent. Ovenstone & Kreitman (1974) suggested that communication of intent illustrated two forms of suicidal syndrome :-

- 1) "stable personality" - reaction to acute stress by committing suicide using a highly dangerous method without communicating intent e.g bereaved spouse
- 2) "sociopathic personality" - frequently dependent on drugs and/or alcohol, committing suicide while others are in the vicinity and after clearly stating their intent to end their lives.

One of the concerns regarding communication of intent must be the reaction of health care professionals to the communication of suicidal ideation or intent. Lewis & Appleby (1988) examined the attitudes of psychiatrists to the diagnosis of personality disorder and found that patients' suicidal urges were more likely to be seen as under control which correlated with the patient being regarded as manipulative, attention-seeking, annoying and undeserving of National Health Service time.

Morgan & Priest (1984) in a study of in-patient suicides found that staff were often critical of those who ultimately committed suicide for being over-dependent, provocative and unreasonable and for deliberately assuming disabilities.

Earlier, Flood and Seager (1968) found the most discriminating aspect with regard to suicides was " disturbed relationships with hospital staff, resulting in premature discharge" .

This pre-dated the description of terminal or "malignant" alienation by Watts & Morgan (1994). While the concept of alienation is recognised in the context of in-patient care, the course and content of alienation in the community remains unknown.

If the concept of malignant alienation is to be useful as discriminator or predictor of suicide among the psychiatrically ill, then the concept itself requires a more precise operational definition, as well as data regarding its prevalence in the general psychiatric population.

Appleby (1982) summarised the findings associated with in-patient care of suicide (Table 4)

Ward milieu and staff morale are related to the notion of alienation.

Crammer (1984) claimed that disruption of a patient's routine could place him or her at increased risk of suicide. Other negative aspects of care which endangered a patient were :-

poor staff communication; sub-standard levels of ward observations; poor staff morale.

By contrast, Kahne (1968) concluded that it was the relative size and turnover of staff and patient populations, as opposed to staff complement which was related to suicide in hospitals.

Despite these varying opinions, it is not unreasonable to assume that unstable, hostile ward environments, staff who are poorly motivated or suffer from poor morale, insufficient staff to patient ratio, all conspire to increase risk of suicide in psychiatric patients. This could occur via a variety of mechanisms including exacerbation of illness; development or worsening of malignant alienation; insufficient time spent with patients resulting in suicidal ideation or intent not being explored or mentioned; hasty discharge from hospital for demanding or unpopular patients or for those who appear to have recovered symptomatically.

Appleby (1992) summarised the features associated with increased risk of suicide **(Table 4)**

**Table 4 Features which might increase the risk of suicide**

<u>Feature</u>	<u>Factors</u>
mental state	psychosis, depressed mood, hopelessness suicidal ideas, suicidal content to the psychotic phenomena, communication of intent
past history	previous parasuicide, history < 4yrs ? several admissions ? long history with recent change
Social/demographic	living alone, single/divorced/ widowed, unemployed, male, young
current episode	acute relapse, recent discharge, IP or recent OP, recent transition in care
ward and staff	staff hostility to patient, high staff or patient turnover, low morale, insufficient observation facilities , inadequate staff expertise.



Where does this leave risk assessment in terms of psychiatric patients? Morgan & Stanton (1997) expressed their concern that suicides among psychiatric patients are increasingly likely to occur within community-based care, to involve male patients and younger patients than previously has been the case. Appleby (1992) has highlighted other factors such as being unmarried and living alone, communication of intent and potential alienation of difficult patients.

Nevertheless, accurately identifying psychiatric patients who may go on to kill themselves remains one of the greatest challenges of clinical psychiatry.

In addition to the replicated factors such as young males, social isolation and living alone, what does seem to be important is the monitoring of suicidal ideation and addressing the difficulties surrounding risk assessment e.g. malignant alienation.

Morgan & Stanton (1997) described the essentials, as they saw them, of suicide risk assessment.

- 1) establishing and maintaining an effective therapeutic alliance thus permitting the regular monitoring of suicidal ideation; such an alliance should, ideally, be maintained with others key to the patient and their care.

- 2) avoidance of alienation of the patient resulting from challenging behaviour or failing to respond to help or treatment

## 3.2.2 PREGNANCY AND THE PUERPERIUM

3) recognition that marked fluctuation in the degree of distress does not indicate a marked change in suicide risk e.g. if distress decreases significantly, it need not follow that suicide risk has decreased proportionately.

4) related to (3) - the exercise of caution when interpreting symptomatic improvement

5) awareness and vigilance should surround ward environment, supervision and leave of absence (Bannerjee et al, 1995)

6) avoidance of premature discharge.

### **2.2.2 PREGNANCY AND THE PUERPERIUM**

Appleby (1991) obtained a standardised mortality ratio for suicide by women in their first post-natal year. Despite the high rate of psychiatric disorder around the puerperium (Kumar & Robson, 1984; Kendell et al, 1987), Appleby found the rate of suicide to be only one sixth of the expected rate.

It was concluded that concerns about children are a powerful influence on suicide risk even within a high risk group. In that sense, such concerns are protective against suicide.

Appleby et al (1998) pursued this area of research by specifically examining the suicide risk following postpartum psychiatric disorder. Standardised Mortality Ratios were calculated for suicide, unnatural deaths and deaths from natural causes for women admitted to psychiatric care in the first postpartum year.

The main finding from the study was that women admitted to hospital with a postpartum psychiatric disorder are at high risk of suicide despite the fact that the overall risk of suicide is recognised as being low. The overall long-term risk of as estimated by Appleby et al (1998) was approximately 17-fold. The rate was especially high in the first postpartum year during which it is increased approximately 70-fold.

The long-term risk of death from natural causes was also high.

Ultimately, severe postpartum illness cannot be regarded, necessarily, as having a good prognosis despite initial recovery in most cases.

The authors emphasised the need for close supervision of postpartum patients, especially within the first year and among those with a history of previous illness.

Much of the puerperal suicide literature concentrates on the effects of childbirth on the mother. Jacobson & Bygdeman (1998) conducted a prospective case control study to investigate the long term effects of traumatic birth and obstetric procedures in terms of subsequent suicide by violent means in offspring as adults. A previous study showed an association between adolescent suicide and adverse perinatal conditions (Salk et al, 1985). Another observed an association between violent suicide and mechanical birth trauma (Jacobson, 1987). However, neither of these studies controlled for confounders.

Controlling for confounders such as recall bias and birth order Jacobson & Bygdeman (1998) found that adverse perinatal conditions were associated with an increased risk of violent suicide in adult men. The administration of opiates during delivery was associated with a decreased risk of subsequent violent suicide in offspring. An emphasis was placed on the use of obstetric procedures which minimised perinatal trauma.

Motherhood appears to act as a protective factor against suicide and concern for dependants in a general sense may provide an important focus for preventative measures in the clinical setting (Appleby, 1991). The effects of pregnancy and childbirth on the suicides provides an important balance to the assumption that suicide risk is determined solely by the mental state and psychiatric history. Social factors must be taken account of, particularly from the viewpoint of preventative measures (Kendell, 1991).

Suicides by occupation, 1955-74, n = 22	
Period 1975-1990, n = 122	
Occupation	Period 1975-1990, n = 122
	1990
Vol	34
Pharmacist	21
Dentist	29
Farmer	10
Medical Practitioner	18
Therapist	13
Librarian	16
Typist, secretary	17
Social worker	11
Chemist (chemist)	14

### **2.2.3. OCCUPATIONAL GROUPS AT RISK**

Charlton et al (1993) calculated proportional mortality rates (PMRs) using occupation data for men aged 16-64 registered dead in the years 1979-1990. The PMR provides an indication of how a specific occupation's mortality from a specific cause differs from that of the whole age group. E.g. a PMR of 200 implies a doubling of the death rate

**Table 5**  
**Suicides by occupation, male deaths at ages 16-64.**  
**Period 1979-1990. THE TOP TEN**

<b>Occupation</b>	<b>Suicides &amp; Undetermined Deaths</b>	
	<b><u>PMR</u></b>	<b><u>No.</u></b>
<b>Vet</b>	<b>364</b>	<b>35</b>
<b>Pharmacist</b>	<b>217</b>	<b>51</b>
<b>Dentist</b>	<b>204</b>	<b>38</b>
<b>Farmer</b>	<b>187</b>	<b>526</b>
<b>Medical Practitioner</b>	<b>184</b>	<b>152</b>
<b>Therapist</b>	<b>181</b>	<b>10</b>
<b>Librarian</b>	<b>180</b>	<b>30</b>
<b>Typist, secretary</b>	<b>171</b>	<b>16</b>
<b>Social scientist</b>	<b>170</b>	<b>11</b>
<b>Chemist (scientist)</b>	<b>169</b>	<b>70</b>

As is clear from this table, vets have the highest value with three times the expected number of deaths. Pharmacists, dentists, farmers and medical practitioners have approximately twice the expected mortality.

These professional groupings in the highest mortality categories imply that easy access to drugs/substances which can be used for suicide may be a key variable as well as working within high stress occupations (Kelly et al 1995). Similarly, farmers have easy access to toxic chemicals, drugs and firearms. There is also the issue of the recent, acute financial difficulties experienced by the farming community.

Along with rural veterinary practices, farming has also become more socially isolated with a marked decrease in the cohesion of farming communities.

Hawton et al (1998) confirmed that suicide methods used by farmers clearly reflected availability and that appropriate restriction in the availability of such dangerous means may result in a reduction in suicides among this occupational group.

In particular, the authors call for the extensive gun ownership among farmers to be examined.

Restrictions to any dangerous methods should be especially borne in mind when dealing with farmers suffering from depression; in their study Hawton et al (1998) found approximately half of all depressed farmers who killed themselves were receiving treatment for their depression.



Medical practitioners suicide rates have been a source of concern since the 1960's. Lindeman et al (1996) conducted a systematic review on gender-specific suicide mortality in medical doctors. This found that the age-adjusted relative risk of suicide among doctors was raised when compared with both the general population and with other academic occupational groups. This situation obtained more among female than male doctors. In Finland the standardised mortality ratio for female physicians during 1986-1993 was 2.4 compared to the general female population and 3.7 compared to other female professionals (Lindeman et al, 1997).

Lindeman et al (1998) reported psychological autopsy findings on seven cases of suicide among medical doctors. They concluded that doctors who committed suicide tended to emphasise reliance on professional identity with a powerful sense of autonomy. Problems such as physical or mental illness and professional setbacks were seen as threats to this sense of identity and autonomy. Importantly, doctors often preferred self medication rather than resorting to other medical help. Many reasons for higher suicide mortality among medical practitioners have been advanced. For example, the significantly higher prevalence of alcohol and drug misuse among medical practitioners compared to similar professional groups (Roy & Linnoila, 1986). Access to and knowledge of the use of drugs has also been cited as a specific professional risk (Rose & Rosow, 1973). Other reasons such as premorbid personality traits and career versus family dilemmas are more speculative.

Methodologically sound studies of suicide risk factors in doctors are required before any meaningful preventative measures can be taken. Lindeman et al (1998) list a series of hypotheses which may explain the high rates of suicide among doctors.

- 1) risk factors for suicide among doctors may be similar to those in other professional groups but their prevalence is higher.
- 2) Physical and mental disorders may be inadequately treated in doctors compared to other groups and "doctor-patients" may be seen as colleagues rather than patients.
- 3) Self-medication, self-diagnosis and avoidance of "true" treatment contacts.
- 4) The availability of drugs and knowledge of how to use them is a distinctive professional risk factor for suicide among doctors.
- 5) Doctors' own attitudes toward life and death may be a selective factor in the choice of a medical career.

Nurses are recognised as being within a high risk occupation in terms of suicide. However, relatively little work has been specifically carried out in this group. Hawton and Vislisel (1999) reviewed this area and concluded :- that female nurse are at increased risk of suicide in several countries; that there is a dearth of information regarding specific aetiologies; the increased risk in nurses has been statistically associated with smoking and negatively with caffeine intake. In contrast with other professions such as medicine and farming, it remains unclear to what extent the availability of dangerous means of committing suicide influences nurses' risk.

## **2.3 SOCIAL VARIABLES AND SUICIDE**

### **2.3.1 AGE AND GENDER**

Suicide increases as a function of age. (Valliant and Blumenthal, 1990).

This is illustrated by the following:-

it is rare in children under 12; it increases post puberty; the incidence continues to increase with each adolescent year (Moens, 1990).

A change in the picture can be seen in late adolescence and early adulthood onwards with a divergence in the age-mortality relationship.

This can be seen in two parameters: between countries and between sexes within a country. There are two separate methods of analysing age-mortality relationships. The first method is age-suicide mortality correlation. Using this technique, the highest suicide rates are among older men in almost all European countries but the rate among females peaks at younger age (45-64) in a significant number of countries, especially Scandinavia.

The majority of European countries, nevertheless, demonstrate a high correlation between age and suicide.

The other technique uses proportional mortality rates. If the rank order of suicide in the range of causes of death is related to age, then the ranking of suicide in that list decreases with increasing age.

If all age groups are taken together, then suicide ranks as the 9th or 10th cause of death in most European countries. This translates to roughly 1% of all female deaths and 2% of all male deaths (WHO Databank 1985-1988)

More detailed analysis, however, shows that there are international differences with Hungary, Japan and Denmark having a three to five times greater suicide mortality than England, Wales and Ireland. There are also marked differences between age groups with the percentage of deaths due to suicide among those in the 15-34 group being 15-20 times the percentage in the 65-74 age group. In countries like Denmark and Japan suicide is the number one cause of death in the 25-34 age group with around 25% of all female and 30% of all male deaths due to suicide (Diekstra, 1996).

There are important changes in the epidemiology of suicide. There has been a real increase in youth suicide in the last twenty years. In industrialised nations there has been an increase in male rates within all age groups but most worryingly in the younger cohorts which show mean changes of 70+% in the period 1970-1986 (WHO Databank, 1970-1986). In women this youth suicide phenomenon is also evident, but to a lesser extent with an increase of 40+% in the 15-29 group. However, in several countries e.g. Canada and the US, there has been a decrease in the female rate while the male rate has increased (Diekstra, 1996).

### **2.3.2 SOCIOLOGICAL VARIABLES**

The most frequently cited delineation of sociological variables operating in suicide was proposed by Emil Durkheim (1858-1917).

In *Le Suicide*, which was not translated into English until the beginning of the 1950's, Durkheim identified three elements which he regarded as contributing to suicide and suicidal behaviour:

- 1) extra-social - including climatic, geographical and psychiatric illnesses
- 2) social causes
- 3) the social element

It is the second category which is subdivided into the well-known tripos :- anomic; egoistic and altruistic. Anomie occurs in social situations where the normative values of a social group lose their force and the usual standards which guide in times of stress are lost.

The egoistic variety refers to individuals being separated from their social grouping and subsequently losing their sense of belonging to a community: the social norms and mores of that society, therefore, no longer have any significance for them.

The altruistic form, as the term implies, refers to ending of one's own life for the greater good.

A recent examination of Durkheim's concept of anomie investigated whether, as Durkheim proposed, factors which increase social cohesion or integration decrease suicide. Reviewing the birth and marriage rates of ten countries from 1900 till 1988, Lester (1996) reported that birth rates were more strongly and consistently associated with suicide rates than were marriage rates. This confirms the results of a Bavarian study (Wiedemann and Weyerer, 1994) and provides some evidence in favour of Durkheim's hypothesis.

It is important to note that explicit distinction between the three varieties, especially between anomie and egoistic, is not always possible.

Social isolation, subjective sense of loss of contact and loss of values remain prominent characteristics of those who die by their own hand (Kreitman, 1993). The causes of these sociological factors have been the subject of more recent investigation. The variables which recur consistently in studies of the social variables in suicide include:- unemployment; social marginalisation and isolation and economic variables such as recession and poverty.

Heikkinen et al (1995) conducted a study addressing social factors operating in suicide and found that several factors varied across age groups among completed suicide, with some age-related sex differences. In comparison with the general population, the suicides were more commonly never married (especially men aged 30-39), and divorced or widowed (especially women 60-69). Suicides had more often lived on their own, although living with parents was more common among young male suicides (25-39).

### 3.2.4 UNEMPLOYMENT

The latter group also had a greater incidence of psychiatric admission. Social isolation was a particularly common feature of those middle aged males who had misused alcohol. While many of these features replicate sociological findings in suicide, the authors highlight the fact that some social variables might be related to the victim's psychopathology and excessive alcohol use.

Gender related psychopathology and alcohol misuse could be seen as confounders and future studies may reveal more if these are controlled for.



#### **2.3.4 UNEMPLOYMENT**

While there is strong evidence of a marked rise in male suicides, especially in the 15-24 age group, there appears to be no strong evidence that severe mental illness has increased among young adults in particular (Der et al, 1990 Lehtinen et al, 1991) which suggests the increase is attributable, at least in part, to environmental influences.

Rises in the general male suicide rate are statistically associated with rises in unemployment in most of the European Union.

Unemployment is often a significant variable (Platt,1984) and this supported by a number of international studies (Pritchard, 1988; Diekstra, 1989; Dooley et al, 1989). However, although the causal mechanism is not fully understood it may be that the trigger is the demoralisation and depressive mood associated with being jobless (Warr, 1987).In young men such pressure may be experienced more acutely as they seek to establish an adult identity.

The association between increased male suicide rates and unemployment should not be surprising in view of the known "depressive" reaction and poorer health associated with associated with being out of work, especially over a prolonged period (Platt, 1984; Whitehead,1987; Warr,1987; Warr and Jackson,1987; Platt and Kreitman, 1990). The demands placed on men and women by a changing society, altered roles and changing social norms can be seen as a form of anomie.

Prolonged unemployment creates a culture of hopelessness and this can only exacerbate the stress upon those who are economically and psychologically vulnerable; often those who are the first among the victims of socio-economic recession (Pritchard, 1992).

An association between age, socio-economic grouping and suicide was found in a study of suicide and undetermined death in the UK. There was a concentration of suicide and undetermined deaths in the middle age groups of the lower socio-economic category. Taking into account methodological considerations, these results could be explained in terms of the downward social drift associated, among other things, with long-term unemployment (Kreitman et al, 1991)

Lewis and Sloggett (1998) investigated the association between suicide, and socio-economic status, unemployment and chronic illness using a longitudinal record linkage method. Unemployment was associated with a doubling of the suicide rate in data from the Office for National Statistics longitudinal study. In Lewis and Sloggett's study, there was little or no association between suicide and measures of socio-economic status such as social class and housing tenure once the association with unemployment had been taken into account. The study could not adjust for some potential confounders but provides strong support for the possibility that economic and social policies aimed at reducing unemployment will also tend to reduce suicide rates.

## 2.4. NEUROBIOLOGICAL CORRELATES (See Table 6)

The difficulty with data on the relationship between suicide and unemployment is that of determining whether the suicide risk is increased directly by unemployment or whether unemployment leads to, results from or exacerbates risk factors such as mental disorder. Although there is no direct evidence that mental disorder increases the likelihood of becoming unemployed (Warr, 1987), there is considerable anecdotal clinical evidence that those with mental disorder fail to compete in the work place e.g. due to the illness itself or due to extensive sick time.

## **2.4. NEUROBIOLOGICAL CORRELATES (See Table 6)**

The majority of studies in this area have examined post mortem tissue from suicide victims and concentrated on serotonergic, noradrenergic and dopaminergic neurotransmitter indices. The most replicated findings are those concerned with decreases in presynaptic serotonin nerve terminal binding sites (e.g serotonin transporter site) and increases in post-synaptic serotonin receptors.

Alterations in noradrenergic indices are less consistent. There is evidence of a reduction in noradrenergic neurones in the locus coeruleus of suicide victims. There are few studies on the dopaminergic system and the results need further evaluation.

There is also evidence that the serotonergic correlations with suicide appear to be robust irrespective of the associated psychiatric disorder implying that these abnormalities are indicative of a predisposition to suicidal behaviour rather than of the psychiatric disorder itself.

It must be noted, however, that these findings are predominantly post mortem and as such they can only be a snapshot of brain function at the moment of death. These results are subject to the confounders associated with post mortem studies i.e. genetic effects, developmental and early life processes, psychotropic treatments and means of suicide, environmental stressors, the effects of post mortem delay and agonal events if death is not instantaneous.

The research in this area is also dominated by studies with small sample sizes, multiple paradigm testing and retrospective design.

Neurobiological research in the area of suicide is one of expanding interest but does not, as yet, provide clinical tools.

**NEUROBIOLOGICAL CORRELATES IN SUICIDE (Table 6)**

<b>AUTHORS</b>	<b>BIOLOGICAL VARIABLE</b>	<b>FINDINGS</b>
Asberg et al 1976	5 - HIAA	Depressed patients with low CSF 5 - HIAA made more suicide attempts than other depressed patients
Mann et al 1989	5 - HT / 5 - HIAA	No evidence for greater reduction in violent rather than non violent suicides
Mann et al 1994	5 - HT / 5 - HIAA	Post mortem brain tissue from suicide victims: modest reduction in brainstem 5HT and 5 HIAA - independent of diagnosis
Arango et al 1996	Noradrenaline	Neuronal reduction in locus coeruleus in completed suicides versus controls ? specific to suicide or also associated with depression

## NEUROBIOLOGICAL CORRELATES IN SUICIDE

AUTHORS	BIOLOGICAL VARIABLE	FINDINGS
Arango et al 1990 Biegon & Israeli 1988 Mann et al 1986	Beta receptors	Increased binding to beta receptors in cortex of suicides versus controls.
De Paermentier et al 1990 Little et al 1993 Stockmeier & Meltzer 1991	Beta receptors	Did not concur with beta receptor findings
Arango et al 1993 Meana & Garcia-Sevilla 1987	Alpha receptors	Increased binding in cortex of suicides
Gross-Isseroff et al 1990		Decreased alpha receptor binding
Garcia-Sevilla et al 1996	Imidazoline	Adrenergic receptors in brain & platelets. Platelet subtypes show up regulation in depression. Brain subtypes show down regulation in suicide victims

## NEUROBIOLOGICAL CORRELATES IN SUICIDE

AUTHORS	BIOLOGICAL VARIABLE	FINDINGS
Arato et al 1989	Corticotrophin Releasing Factor	Increased CRF concentration in CSF of suicide victims
Nemeroff et al 1988	Corticotrophin Releasing Factor	Decreased receptor density in frontal cortex of suicide victims attributed to down regulation of CRF binding sites due to CRF hypersecretion by the hypothalamus
Banki et al 1987	Corticotrophin Releasing Factor	No differences in CSF CRF concentrations between suicidal and non-suicidal depressed patients.



## NEUROBIOLOGICAL CORRELATES IN SUICIDE

AUTHORS	BIOLOGICAL VARIABLE	FINDINGS
Sundmann et al 1997	GABA	No differences in the ligand binding of GABA receptors in the frontal cortex of suicides and normal controls post mortem
Linkowsky et al 1983 Linkowsky et al 1984	TSH	Lower TSH response to TRH in depressed patients who subsequently commit suicide. There are many inconsistencies and contradictions in the literature on this area.
Muldoon et al 1990	Cholesterol	Long term follow up of the effect of cholesterol lowering drugs. A significant increase in suicides, accidents and violence. ? causal link.

## **2.5. PHYSICAL HEALTH VARIABLES**

There is a recognised increased risk of suicide in those suffering from many physical illness. Particularly close associations have been noted among chronic neurological, cardiovascular, gastrointestinal and malignant conditions (Whitlock, 1986). For example, the relative risk of suicide in those suffering from cancer of any type has been calculated at 2.5 (Allebeck & Bolund, 1991). There are other frequently quoted associations which are reflections of underlying conditions such as the link between peptic ulceration and suicide which is almost wholly explained by comorbid alcohol dependence.

**Table 7**

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**Features associated with physical diseases or drug side effects which increase suicide risk**

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Mood disorder - especially depression and emotional lability

Motor overactivity - E.g. agitation and akathisia

Disinhibition and reduced impulse control

Severe, chronic or recurrent pain which is not adequately controlled

Disfigurement - particularly in women

Severe disability - especially loss of mobility

Extensive sick role limitations - e.g. loss of job, family or social role.

Prospect of degenerating disease without hope of recovery

---

Physical ill health has been quoted as a significant factor in between twenty five percent and seventy five percent of suicides. The higher figures are from those studies examining elderly suicides.

Among all suicides in Scotland between 1988 and 1989, forty percent of men and fifty percent of women suffered from a chronic physical illness (Milne et al, 1994).

A review of one hundred cases of suicide among elderly people, sixty five percent had significant physical illness and twenty three percent had been medical inpatients within the preceding year (Cattell & Jolley, 1995).

There is a well recognised relationship between physical ill health and depression or subclinical distress ( Mayou & Hawton, 1986). While, objectively, these emotional disorders may be mild in terms of symptom severity, they may form an important interface between physical ill health and suicide.

## **2.6 SUMMARY**

It is clear that the pathways to suicide are multifactorial. There have been several attempts to quantify and simplify these pathways into models which will be of use to the practising clinician. Two such models are:-

- a) the stress diathesis model concerned with stressors and predisposing factors and
- b) the hierarchical model concerned with the relative contribution of factors to overall risk of suicide.

Although no model as yet has been adopted into routine clinical practice due to the complexity of the suicidal process, both these models are in some ways intuitive to medical practitioners and provide a framework on which to base further research.

a) ***The Stress Diathesis Model Of Suicidal Behaviour***

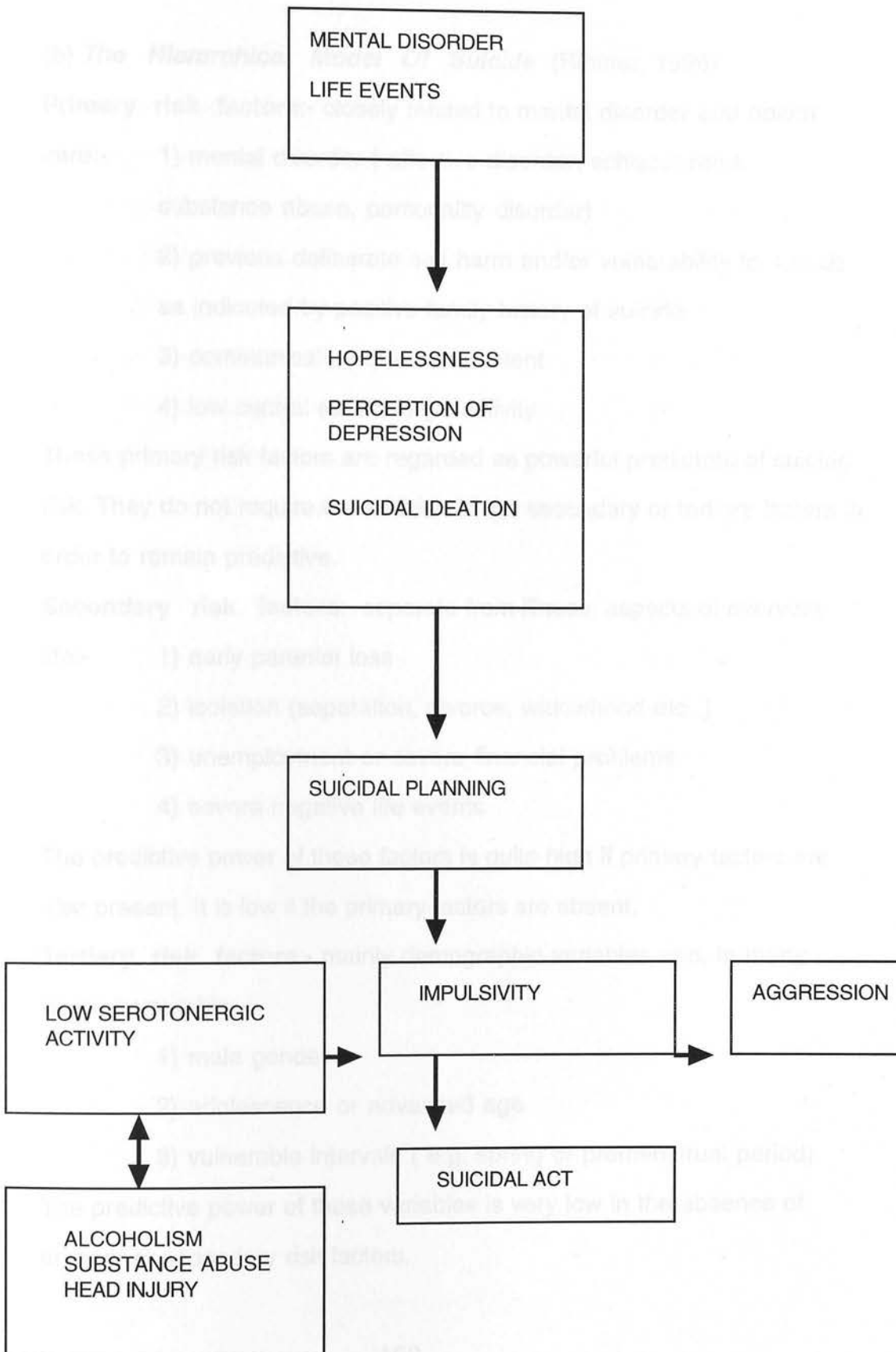
(Mann, 1998) - see table 8

Typical stressors include:- psychiatric illness; use of alcohol and sedatives that disinhibit; medical illness especially if affecting the brain; adverse life events

The diathesis or predisposition to suicidal behaviour may be a key element in helping to understand why one person with depressive illness kills themselves while another with the same illness does not.

Diatheses/ predisposition could be :- genetic; early life experience; chronic illness; chronic abuse of alcohol, or other substances.

TABLE 8



(b) ***The Hierarchical Model Of Suicide*** (Rihmer, 1996)

**Primary risk factors:-** closely related to mental disorder and health care:-

- 1) mental disorder ( affective disorder, schizophrenia, substance abuse, personality disorder)
- 2) previous deliberate self harm and/or vulnerability to suicide as indicated by positive family history of suicide
- 3) communication of suicidal intent
- 4) low central serotonergic activity

These primary risk factors are regarded as powerful predictors of suicide risk. They do not require the addition of the secondary or tertiary factors in order to remain predictive.

**Secondary risk factors:-** separate from illness; aspects of everyday life:-

- 1) early parental loss
- 2) isolation (separation, divorce, widowhood etc. )
- 3) unemployment or severe financial problems
- 4) severe negative life events

The predictive power of these factors is quite high if primary factors are also present. It is low if the primary factors are absent.

**Tertiary risk factors:-** mainly demographic variables and, in many ways, immutable:-

- 1) male gender
- 2) adolescence or advanced age
- 3) vulnerable intervals ( e.g. spring or premenstrual period)

The predictive power of these variables is very low in the absence of primary or secondary risk factors.



### 3.4 SYSTEMATIC REVIEW OF THE LITERATURE ON PSYCHOLOGICAL RISK

Both these models and the literature as a whole give great prominence to risk factors as there is little known about protective factors. Present knowledge indicates that good, functioning social networks and family support, being married, pregnancy and motherhood all appear to be protective (e.g. Linehan et al, 1983; Appleby, 1992; Kendell, 1991). However, the emphasis in research to date has been on identifying and attenuating risk factors. In order to reduce the suicide rate in accordance with the various targets set, further identification and confirmation of protective factors will be required.

2) clinical - biological vs. stress - diathesis (Fergusson, 1984; Appleby, 1992; King, 1994)

3) risk factors vs. precipitating factors (Fergusson et al, 1984)

These dual dichotomies do not reflect the reality of assessing suicide risk, indeed most experienced risk assessors would regard them as overlapping while and between the categories listed above.

3.4.1 The clinical - biological vs. stress - diathesis model

The two models discussed above, the stress - diathesis model (Mann, 1989) and the hierarchy of risk factors (Fergusson, 1984) are both meaningful in the clinical setting and therapy, none the less. They allow for the existence of interaction between various risk factors while, at the same time, recognising the relative importance and weight attributed to these factors.

### **3. A SYSTEMATIC REVIEW OF THE LITERATURE ON PSYCHOLOGICAL AUTOPSY**

#### **3.1 INTRODUCTION**

From the above, it is clear that there is an emerging consensus confirming that suicide is an endpoint of a series of pathways which are of disparate origin.

It is also clear that a number of factors have been shown repeatedly to have a statistical relationship with suicide. They have been categorised in a variety of ways :-

- 1) short - term vs. long - term (Hawton, 1987; Hawton and Fagg, 1988)
- 2) clinical - biological vs. socio - demographic (Hawton, 1987; Appleby, 1992; King, 1994)
- 3) risk factors vs. precipitating factors (Heikkinen et al, 1993)

These rival dichotomies do not reflect the reality of assessing suicide risk, indeed most experienced clinicians would recognise considerable overlap within and between the categories listed above.

The two models discussed above i.e the stress - diathesis model (Mann, 1998) and the hierarchy of risk factors (Rihmer, 1996) are more meaningful in the clinical situation and, thereby, more useful. They allow for the existence of interaction between various risk factors while, at the same time, recognising the relative importance and weight attached to these factors.

Undoubtedly, progress has been made in acknowledging the complexity of suicide risk factors and their interactions. However, controversy surrounds what the key risk factors are, what can be done to reduce their impact on an individual and what the role of the medical profession is in this exercise.

Within this debate, key risk factors have been the subject of the greatest research efforts. To date the results of these efforts appear to dichotomise risk factors into two main clusters.

One cluster is biological, involving factors such as mental and physical illness, genetic predisposition and previous deliberate self harm. The other cluster can be seen as sociological, essentially involving factors first highlighted by Durkheim in the late nineteenth century and expanded in the present day. As has been discussed above in the INTRODUCTION, a variety of research techniques have been employed over the years to uncover clues to the origins of suicide. Methodological problems are inherent in many of the techniques, the lack of controlled studies being particularly evident. However, all areas of psychiatric research have methodological problems but what makes research into suicide peculiarly difficult is the complete impossibility of interviewing, or in any way examining, the key witness i.e. the victims themselves. As such these studies are, by their very nature, retrospective and inferential.

### **3.2 The Psychological Autopsy**

All research methods in suicide, other than lifetime prospective studies of an identified cohort, must be by proxy. There is a substantial body of evidence which indicates that psychological autopsy is the most reliable and credible technique available to researchers for accessing information critical to determining the pathway to suicide for an individual.

The psychological autopsy technique originated in the United States of America. The Los Angeles Chief Medical Examiner sought assistance in determining whether equivocal deaths were suicide, accident or undetermined.

Shneidman, in conjunction with the Los Angeles Suicide Prevention Centre and the Chief Medical Examiner's Office, coined the term "Psychological Autopsy" in the early 1960's to describe a procedure originally used to classify these equivocal deaths (Shneidman & Faberow, 1961; Curphey, 1968)

The aim of the technique is to acquire as much information as possible on an individual in order to reconstruct a biography of the deceased. This is done by interviewing those witnesses who were closest to the deceased in life e.g. spouse or partner as well as accessing as many other sources of information as possible. The latter include :- general practitioner and hospital records; police and post mortem reports. Other sources can also be used such as interviewing health care professionals, school teachers, social workers; educational psychologists where possible and, if appropriate.

The collected data are then used to provide biographical and demographic details, clinical history, a diagnosis where appropriate, an assessment of the nature and quality of interpersonal relationships and the social integration of the deceased.

An assessment of the extent to which the individual suffered adversity and the nature of the individual's personality can also be carried out with the use of validated schedules.

Weissman (1967) described the novel contribution made by the psychological autopsy to the investigation of suicide in these terms:-  
" to introduce the psychosocial context into decisions about the cause of death since examination of post mortem remains tell only what lesions the patient died *with* , not what he died *from* . "

Although the initial role of psychological autopsies was to determine the mode of death in equivocal cases, their applicability has broadened over the years.

The technique has been used as a research tool to aid the understanding and prevention of suicide and as a therapeutic tool to assist those bereaved by suicide in coping with their loss.

In cases where the cause of death is quite clearly suicide, the psychological autopsy has been used to "account for the reasons for the act or to discover what led up to it" (Shneidman , 1981).

Therefore, they have helped to determine why a person chose suicide in the context of their motivation, personal philosophy and psychological state as well as why the act occurred at that particular time. This role in determining proximate causation has been seen in recent years in cases where legal liability following suicide has been tested regarding workers' compensation, product liability, medical malpractice and criminal cases.

However, this systematic review will concentrate solely on those studies which have investigated suicides as part of research endeavours.

The strategy involved using the following MeSH words :-

[PSYCHOLOGICAL AUTOPSY] and [SUICIDE] and

[PSYCHOLOGICAL AUTOPSY and SUICIDE]

All on-line abstracts were reviewed and were rejected only if irrelevant

**3.3 AIMS** This search strategy was supplemented by obtaining all papers known to the reviewers and all those cited in the reference lists

The aim of this literature review was to systematically examine the literature on psychological autopsy studies of suicide and to identify any clinically useful risk factors.

All reports were reviewed independently by two psychiatrists and consensus was reached on each paper. A third psychiatrist was available to adjudicate when discrepancies arose.

### **3.4 METHODS**

A systematic review of the literature available on psychological autopsy studies was carried out.

#### **Search Strategy**

A search was made of three computerised databases; MEDLINE from 1/1966 -12/1998, BIDS from 1/1981 - 12/1998, PSYCHLIT from 1/1990 - 12/1998.

The strategy involved using the following MeSH words :-

[PSYCHOLOGICAL AUTOPSY] and [SUICIDE] and

[PSYCHOLOGICAL AUTOPSY and SUICIDE].

All on-line abstracts were reviewed and were rejected only if ineligible for the study. This search strategy was supplemented by obtaining all papers known to the reviewers and all those cited in the reference lists of these papers.

#### **Data extraction**

All reports were reviewed independently by two psychiatrists and consensus was reached on each paper. A third psychiatrist was available to adjudicate when discrepancies arose.



A structured proforma (See Appendix A) was compiled to assess each paper. The proforma was designed to examine the following :- sampling technique, geographical area, representativeness, details of the psychological autopsy technique itself, diagnostic measures and criteria, methods of analyses. The findings of these studies were categorised according to demographic risk, mental disorder, comorbidity, life events, social interaction factors, other findings and warning signs.

Inclusion criteria were :-

- 1) studies which used psychological autopsy technique to interview informants face to face. It has been argued that in order to remodel the mental state of the deceased, researchers must conduct face - to - face interviews with those who were closest to them. The reason for this is to gain as much information in as accurate a manner as possible. Crucial information can be acquired from informants which is not available in case notes, other records or from individuals who have had merely a passing contact with the deceased.
- 2) studies where the data of the psychological autopsy study was presented.
- 3) Case series and case control study were included.

Exclusion criteria were:-

- 1) studies which did not interview informants directly e.g. used indirect information from the records of the deceased;
- 2) papers which reviewed the technique itself or a series of papers using the technique and presented no original study data.

## Statistical analysis

The data extracted from the initial review are presented in total: case series studies followed by case controlled studies. In addition, those studies which provided quantitative data were separated from those with purely observational data. Median rates and ranges were calculated for each of the main variables and are recorded below. In order to quantify the impact of any one factor or group of factors, the population attributable fraction was calculated (PAF; Last, 1988) using the data available from cited case control studies. In principle, the PAF estimates the proportion of cases (e.g. suicides) that can be attributed to the exposure (e.g. mental disorder). This can be expressed as :

$$\frac{(\text{RATE}_{\text{exposed}} - \text{RATE}_{\text{unexposed}}) P_{\text{exposed}}}{\text{RATE}_{\text{total population}}}$$

where  $P_{\text{exposed}}$  is the proportion of person-years that are "exposed". The PAF can be calculated using a simplified formula where the rate ratio has the same value as relative risk in a rare event such as suicide (Lewis et al, 1997):

$$\frac{P_{\text{exposed}} (RR - 1)}{1 + P_{\text{exposed}} (RR - 1)}$$

**Tables containing data from studies included in the systematic review.**

**1) Case series studies**

Finnish Group	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Heikinen et al 1992	Finland	M & F	-	91% consecutive cases	388	Spouse/partn MS	DSM-III-R no severity measure	Stress events varied acc to sex	-	-	In 82% of cases recent stress events were reported	IP loss a major stressor	22% physically unwell	stressors in 67% M and 55 % F in last 3 month
Heikinen et al 1994	Finland	Alcoholics & depressed non-alcoholics	Mean age 44.1 yrs	random sample from total of 1397	144 34 lost due to lack of data	1st rel+ & oth MS, MR, R, L E, IS	DSM-III-R no severity measure	life events related to age	High rate of depression amongst the alcohol dependants	-	Multiple adversity prevalent in alcoholics	excess inter-personal stress in alcoholics esp. living alone	-	-
Heikinen et al 1995	Finland	M & F	-	76.40% consecutive cases	1067	1st re+ & oth MS, MR, R, L E, IS	DSM-III-R no severity measure	-	-	alcohol misuse was common and related to age/sex	unemployment was an influential factor	More single cases <30, more married >30, living alone was common	interpersonal loss very important factor	-
Heila et al 1997	Finland	M & F with schizophrenia	-	100% consecutive cases	92	1st rel+ & oth MS, MR, R, L consensus vi	DSM III-R no severity measure	younger age used more violent methods	-	64% depression comorbidity, 21% alcohol dependent	32% had undergone recent discharge from hospital	-	71% previous DSH	-
Henriksson et al 1993	Finland	M & F	-	random sample from total of 1397	229	1st rel+ & oth MS, MR, R, L IS, consensus	DSM-III-R no severity	-	93% had an Axis-I diagnosis	44% had 2 axis-I diagnoses, only 12% not comorbid	-	-	-	-
Henriksson et al 1995	Finland	M & F	Aged 60 yrs and over	random sample from total of 1397	43	1st rel+ & oth MS, MR, R, L E, IS	DSM-III-R no severity measure	more elderly were more depressed.	91% showed an axis I diagnosis Major depression being principal one	Prevalence of comorbidity very high, especially in male cases	-	-	-	-
Henriksson et al 1996	Finland	M & F with panic disorder	-	100% consecutive cases	17	2.9 informant 1st rel+ & oth MS, MR, R, IS, consensus	DSMIII-R no severity measure	-	47% Axis II diagnosis	100% had another axis I diagnosis substance abuse present in 47% 71% were comorbid cases	-	-	-	-
Isometsa et al 1994	Finland	M & F with bipolar disorder	mean age: M 43yrs F 55 years	67.4% consecutive cases	31	2.9 informant 1st rel+ & oth MS, MR, R, IS, consensus	DSM-III-R no severity measure	males were younger	79% in major depressive episode at time of suicide	-	-	-	-	-

Finnish Group	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Isometsä et al 1994	Finland	M & F with major depression	-	random sample from total of 1397	71	2.9 informant 1st rel+ & oth no severity MS, MR, R, L measure E, IS consensus	DSM-III-R	-	Greater number on antidepressants in psych care 60%	-	-	-	-	Intent stated more by thos in psych care
Isometsä et al 1994	Finland	M & F with major depression	-	random sample from total of 1397	71	2.9 informant 1st rel+ & oth no severity MS, MR, R, L measure IS, IS consensus	DSM-III-R	Complex sex-comorbidity patterns	-	85% demonstrate comorbidity related to age and sex 79% of psycholic, 87% nonpsych, complex comorbid cases	-	-	Most suicides of maj depn occur in those under/un treated psychotics used more violent methods	56% communicate intent
Isometsä 1994	Finland	M & F, major depressives, non/psychotic	-	random sample from total of 1397	70 1 lost due to unreliable diagnosis	2.9 informant 1st rel+ & oth no severity MS, MR, R, L E, IS	DSM-III-R	-	-	-	-	-	-	-
Isometsä et al 1995	Finland	Bipolar and unipolar depressed M & F	mean age 49 yrs	81% consecutive cases	25 bipolar 56 unipolar	2.9 informant 1st rel+ & oth no severity MS, MR, R, I measure	DSM-III-R	Sex diffs in rate of major life events in last 3 months	-	-	42% occurring in last week, higher prop of males exp a maj life event in the last 3 months	Association with psychosocial stress evident	-	-
Isometsä et al 1995	Finland	M & F whose suicide was in 4 wks of visits with h/care	mean age 46yrs	99.5% consecutive cases	229	1st rel+ & oth MS, MR, R, I No severity measure	DSM-III-R	-	75% suffered from a depressive syndrome	50% suffered psychiatric and social problems	-	50% had psychosocial difficulties	More likely to die if do not communicate intent	intent discuss in 22% of cas
Isometsä et al 1996	Finland	M & F with unipolar maj depn and non-maj dep	mean age: maj depn 50 yrs non maj 41 years	random sample from total of 1397	129	1.3 informant 1st rel+ MS, MR, R, L measure E, IS, consensus	DSM-III-R	non maj dep sig younger & 81% males	Major contributing factor to suicide	comorbidity at 59% for nonmaj depn	during last 3 months, 89% of nonmaj and 66% of maj depressed	-	-	those in cont with h/care 6% nonmaj & 41% majdep
Isometsä et al 96	Finland	M & F had ECT	Aged 49 yrs and 55 yrs	100% Consecutive cases	2	MS, MR, R, No info	-	one male, one female	Both cases had recurrent major depn	-	-	-	-	Less than 1% of suicides had ECT in last 3 months
Isometsä et al 1997	Finland	M&F urban and rural	-	random sample from total of 1397	228	2.6 informant 1st rel+ & oth no severity MS, MR, R, L measure E, IS consensus	DSM-III-R	-	36% urban suicides showed cluster B personality 19% in rural areas	comorbidity prevalent, 66% urban, 42% rural	In urban suicides, 25% were preceded by a separation	Separation from or lack of close companion is influential stress	substance abuse higher in urban areas	-
Lindeman et al 1998	Finland	M & F medic doctors	-	100% Consecutive cases	7 2.9 informant	DSM-III-R 1st rel+ & oth no severity MS, MR, R, I measure Consensus view	-	-	Depression present in 85.7% of cases high rate of self justification of chronic illness	Psychosomatic ill health	-	-	Self medication leads to undertreat of somatisation of mental health	-

Finnish Group	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Marttunen et al, 1991	Finland	M & F Adolescents with mental disorders	13-19 years	100% consecutive cases	53	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure consensus view	DSM-III-R	-	94% received 1 DSM-III diagnosis, in 51% +1 diagnoses 52% were depressed	Comorbidity of mental disorders and with alcohol dep was high M 23%, F 44%	-	-	-	-
Marttunen et al 1993	Finland	M & F Adolescents	13-19 years	100% consecutive cases	53	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure consensus view	DSM-III-R	-	-	-	70% experienced a stressor in 28 days prior to suicide	most common stressor was interpersonal or family discord	demonstrative of importance of stress	-
Marttunen et al, 1994	Finland	M & F Adolescents with anti social behaviour	13-19 years	100% consecutive cases	53	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure consensus view	DSM-III-R	-	75% of males, 100% females suffered from a mental disorder, often border line personality disorder	Comorbidity with dual Axis I disorder and alcohol abuse was common	-	Parental violence & sep were high amongst those with antisocial	Antisocial behav reported in 43% of suicides, 50% of those involve alcohol abuse	-
Marttunen et al 1994	Finland	Adolescents adjustment disorders or no psych diag- nosis M & F	13-19 years	100% consecutive cases	14	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure consensus view	DSM-III-R	-	-	-	Recent stressors common, within 24 hrs before suicide in 3 cases	Interpersonal loss or conflict is a major factor	-	-
Marttunen 1994	Finland	M & F Adolescents with degn, alcohol abuse	13-19 years	100% consecutive cases	53	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure consensus view	DSM-III-R	-	Somatic illness and interpersonal conflict were greatest in depressed sample	64% of alcohol abuse group also had a depressive disorder	All groups, 35-40% experienced a stressor in 24hrs prior to suicide	Most common stressors were interpersonal in nature	-	-
Marttunen et al, 1995	Finland	Female Adolescents	13 - 22 yrs of age	100%	19	2.9 informant 1st rels, MS, MR, R, IS measure	DSM-III-R	-	68% mood disorder 43% previous disorder	44% border line personality disorder, 21% substance abuse	-	47% moved from home, 50% had family problems	47% exposure to suicidal behaviour	yes, 75% had communicate intent in prev months
Marttunen et al 1997	Finland	Young males in compulsory military service	19-22 years	100% consecutive cases	7	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure consensus view	DSM-III-R	-	71.4% diagnosed with a disorder inclusive of depressive symptoms	-	100% had experienced stressors in civilian and military life	Psychosocial stress was a common form of stressor	Interpersonal separation more often the pre-cipitating event	28 60% shared their suicidal thoughts
Pirkola et al 1997	Finland	M & F alcoho misusers, non and employed	-	71.30% Consecutive cases	997	2.9 informant 1st rel+ & oth No severity MS, MR, R, I measure Consensus view	DSM-III-R	-	-	-	-	-	Employed more likely to commit suicide at wk/end	-
Sorri et al 1996	Finland	M & F with a without active religiosity	-	100% consecutive cases	1397	2.9 informant 18% showed religiosity 1st rel+ & oth varied on MS, MR, IS geograph area, so did suicide	Religiosity	active religiosity more likely had psychiatric treatment	-	-	-	-	-	-

San Diego Group	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Fowler et al 1986	San-Diego	Young M & F of 30 yrs		89% Consecutive cases	118	2 informants 1st rel+ & oth no consensus MS, MR, R, measure	DSM-III-R	more suicides 20-29 ages	24% had diagnoses of atypical depression	53% had substance abuse problems, 54% of those had treatment		63% never married		
Isacson et al 1984	San-Diego	M & F	133 <30 yrs 150 >30 yrs	87% consecutive cases	204 unable to analyse 36	2 informants 1st rel+ & oth no consensus MS, MR, R, measure	DSM-III-R		34% of all cases had depression, 49% of those 30 yrs	high rate of depn and substance disorder			8% tricyclics in toxicology, 63% had depression	56% saw their physician in 90 days prior to suicide
Rich et al 1986	San-Diego	M & F	Under 30 yrs over 30 yrs of age	no info given consecutive cases	283 1 missing	2 informants 1st rel+ & oth no consensus MS, MR, R, measure	DSM-III-R	prominent age diffs	Affective disorders were more common among the >30, Antisocial PD more common in <30		<30 yrs IP stressors were more prominent where as in >30, more illness	Sig more <30 had a substance dependence disorder, 60.4% vs 13.8%		
Rich et al 1988	San-Diego	M & F	under 30 yrs over 30 yrs of age	No info given consecutive cases	283 1 missing	2 informants 1st rel+ & oth no consensus MS, MR, R, measure	DSM-III-R		Affective disorders were more common among the >30	Comorbidity bwn substance abuse & depressive symptoms was high	Sig more substance abusers than depressives suffered IP loss prior to suicide	Sig more <30 yrs with IP loss/ conflict prior to suicide		
Rich et al 1990	San-Diego	M & F Adolescents	Under 19 years	100% consecutive cases	14	2 informants 1st rel+ & oth no consensus MS, MR, R, measure	DSM-III-R		43 % had past psychiatric treatment	Majority had disturbed behavior and psychiatric symptoms	In 69% of cases stressors were identified	50% suffered relationship and family discord problems prior to suicide		



New York Group	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Conwell et al 1990	New York	Males in whom cancer of 50 years pivotal issue	Over the age and over	Convenience cases	7 7 lost to refusal	1st rel+ & oth MS, MR, R, L DSM-III-R E. consensus vi severity measure	SCID	-	71.4% had major depression	illness beliefs and depression	belief of having cancer	-	inflexible coping styles	-
Conwell et al 1991	New York	M & F	over 50 yrs of age	50 - 75% consecutive cases	18 50% lost to refusal	1st+ rel & oth MS, MR, R, L no severity E. measure	SCID	15 male 3 female	16 with documented psychopathology of which 10 were exp 1st episode of illness	comorbidity of mental and illness	deteriorating physical health	Marital/family discord	-	38.9% had seen primary physician in last week
Conwell et al 1996	New York	M & F	21 years and over	67.8% consecutive cases	141 67 lost due to lack of information	1st rel & oth MS, MR, R, severity consensus vi measured information	SCID	younger age substance abuse, older age mood	90% had an Axis-I condition	57% of those with mood disorder, also substance abuse	-	-	-	-
Conwell et al 98	New York	M & F	Over the age of 21 years	97%	137	4.6 informant no severity 1st rel+ & oth MS, MR, R	measure	young & male more likely employ more violent methods	Presence of affective disorder or schizophrenia predicted prior suicide attempts	-	-	-	Older women more likely to have previous attempts	younger victim more likely to communicate intent
Duberstein et al 1993	New York	M & F, mood disorders and with substance dependency	21 y ndom sampl and from total with substance dependency	57 37 lost to symptoms	1st rel+ & oth MS, MR, R, L adaptation of E, V, M LE schedule consensus vi no severity measure	-	measure	inter in subst Demon stre IP stires apparent causal dep reporte rel bwn onset of sub cases I IP stressors & prior to suicide in A/SD	-	-	prior to suicide	suicide in A/SD	-	-
Portnietson et al 1997	New York	M & F with alcohol dep and those with comorbid drug dependence	Aged over 21 yrs and those with comorbid drug dependence	63%	61 8 lost as substance abuse only	5 informants 1st rel+ & oth MS, MR, R, L HAM-D E, VS consensus vi measure	SCID, CIRS	Those with alcohol dependence were older	Those with only alc dependence were more likely to have comorbid depression	Comorbidity of depression and alcohol dependence	-	-	-	Those with dr & alcohol dep were more lik to communic suicide intent

Various Groups	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Apter et al 1993	Israel	Adolescent Males whilst in compulsory military service	18-21 years	consecutive cases	43	10 informant 1st+ rel & oth MS, MR, R, measured IS	DSM-III-R severely		81% given Axis I diagnoses 53% major depn	-	91% had an obvious stressor romantic/financial service related	48% described as 'private people'	Loss of parent a relative risk factor	32% prior threat/gesture
Arato et al 1988	Hungary	M & F	-	25% consecutive cases	217 17 lost to refusal	1 informant 1st rel+ & oth R, L, E, VS	DSM-III-R, S For both M No sev & F sharp inc in suicide > 60 yrs		58% had major depn 5.5% minor depn No psych diagnosis in 19% of cases	In 7.5% depn comorbid with physical illness, 20% comorbidity with alcoholism 11% suffered from substance abuse	Death of a family member in previous year in 6-10% of cases yes, but 40% had no known stressor	Family loss a factor high rates of suicide among widows and divorcees	Psych hospitalisation present in 37% of cases family history of suicide evident 63% previous attempt	-
Asgard et al 1990 & urban areas	Stockholm	Female	Over the age of 14 years	89% consecutive cases	104 11 lost due to refusal, lack of info	1st+ rel & oth Research MR, R, L, E, Diagnostic crit no severity measure			50% had a lifetime affective disorder 58.7% had current affective disorder	-	-	-	-	yes, 67% communicate intent in last week
Barracough et al 74	South England	M & F	-	95% 2 samples, consecutive cases	100 4 lost	4.5 Informant 1st rel+ & oth by psychs MS, MR, R, L Severity mea	diagnosis agr vulnerable older men & women		93% diagnosed mentally ill, 70% depression, 15% alcoholism	-	-	-	80% had been prescribed psychotropic drugs	34% gave ov warnings, hig in alcoholics 40% visited d in previous w
Biro 1987	Yugoslavia	M & F	-	81.50% convenience cases	163	Little info giv MR, R, E	No info given 45% of sample > 60 24% >50		Presence of +5 depn symptoms was seen in 44%, and 30% had 3 or 4 such symptoms	Alcoholism was an important factor	-	Loneliness was a major factor often through loss of partner, 'anomie' seen as important element Sig more suicide amongst the unmarried, 25% lived alone, social factors very important	43% suffered long term illness or pain	-
Chynoweth et al 80	Brisbane	M & F	-	100% consecutive cases	135	1-4 Informant MRC trial crit type not spec for depn, sev suicides in MS, MR, R, L measure E, Mod schedule	trial crit Sig more males & elderly		Depressive disorder found in 55%, main diagnosis in 33%	Drug dependency in 34% of cases Comorbidity was common	Evidence of a quarrel in 48 hrs prior to suicide in 40% of cases bereavement in 12% of cases	Sig more suicide amongst the unmarried, 25% lived alone, social factors very important	Physical disorder present in 52% main diagnosis in ##	-
Dorpat et al 1960	Seattle	M & F	Mean age: males 52.4 females 48.9 yrs	93% Consecutive cases	114 7 lost to refusal	1st rel+ MS, MR, R, L ptom checkd No severity measure	A psychiatric Two thirds male		100% were diagnosed with psychiatric illness schizophrenia common in those <40, alcoholism in 40-60yrs, >60 yrs psychotic depression	Comorbidity was prevalent	Separation from family members a significant life event	higher % were unmarried than gen population 27% had suffered loss of family member	1 third had made previous attempts High level of physical illness	83% indicate intent in some manner, 38% left notes

Various groups	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Kelly et al 1996	Pennsylvania	M & F	Mean age 42 years	65% convenience	13 20 lost due to lack of info	2 informants 1st rel MS, MR, R, L measure E, VS	DSM-III-R no severity L measure		69.2% suffered from major depression or schizophrenia					
Litman et al 1963	Los Angeles	M & F equivocal suicides	-	No info Consecutive cases	100	1st rel+ & oth MS, R, IS	No info		30.9% of suicides referred to psych servs only 4.4% of non-suc	40% of suicides had medical trtmnt in last 6 months compared to 24% 78% suffered comorbidity, 48% with affective disorders			55% were suicides 45% non suicides	
Murphy et al 1979	USA	Alcoholics M & F	-	58% consecutive cases	48	1st rel no other info	No info		48% suffered from affective disorders		26% experienced disruption of a relationship 6 weeks prior to suicide. 50% in last year			
Rao et al 1989	India	F admitted to hospital severe burns	Aged 15-40 yrs of age	100% consecutive cases	70	1st rel+ & oth Little info giv R, interviews	not recorded, suicide most in 15-30 years of age		Psych disorders diagnosed in 23%	Psychosomatic illness present	Stressful life events present 57% of cases	Major contributor were social and IP adjustment problems, 51%	Physical illness in 15% of cases	no suicide lett
Robins et al 1959	St Louis County	M & F	-	100.0% consecutive cases	134 15 only ancillary interview	1st rel+ & oth MS, MR, R, L interview, IS, measure	Clinical Severity measure	Younger BPs less common in suicides 13% <40yrs	94% suffering psych illness 68% suffering from manic depression or alcohol abuse				4% medically ill, 73% of manic depressives need care, 40% of alcoholics	68% of manic depressed told suicide ideas, 77% of alcoh group
Rudestam 1971	Los Angeles Stockholm	M & F	-	No info consecutive cases	100	1 informant No information R, IS	No information							

Various Groups	Geog Area	Popn Studied	Age	Representativeness	Numbers Analysed	Technique Employed	Measures	Demographic Risks	Mental Disorder	Comorbidity	Life Events	Social Interaction	Other Findings	Warning Signs
Runeson et al 91	Sweden 1989	Young M & F	Aged 15-29 years	90% consecutive cases	58	2.2 Informant 1st reit+ & oth MS, MR, R, Mod schedule	Modified DS No severity measure	Male Female ###	41% major deprn, 14% schizophrenia, 28% borderline personality 14% adjustment dis	Psych morbidity evident in most subjects	-	-	72% known to psych caregivers 52% of families had case of substance abuse	-
Runeson et al 91	Sweden	Young M & F	Aged 15-29 years	90% consecutive cases	58	2.2 Informant 1st reit+ & oth MS, MR, R, Mod schedul consensud	DSM-III-R no severity measure	-	Large proportion of Axis II diagnoses, 33% border line personality	Borderline disorder showed more anti-social traits and substance abuse	-	Much evidence of early parental absence, lack of residence	-	-
Seager and Flood 1965	Bristol	M & F	-	100% consecutive cases	325	MS, MR	Diagnosis from psych r No severity measure	higher rate males & > 50	33% history of psychiatric diagnoses 66% evidence of some mental illness	-	-	The socially isolated seen as more at risk	20% physical ill health	21.5% indicated intent to take

**Tables containing data from studies included in the systematic review.**

**2) Case controlled studies**

Geog area	Suicide pop. Age studied	Numbers analysed	Representativeness	Controls	Match	Numbers Analysed	Techniques Employed	Measures	Demographic risks
Barracough and Pailis 75				Depressed to psych s	Sex and a matched	128	1st rel, MS - primary MR - secondary, R, L, E, IS	Consensus meeting of 3 psychs Severity measure SAADS - K-P RDC No severity measure	Age a factor with more older female suicide
Brent et al 88	Adolescen Under 19 M & F years	27	77.10% Consecutive cases	suicidal in at an adolescent unit, Pittsburgh hospital, attempters and ideators	No info	56	1st rel+ & other R, L, E, VS, Mod schedule		Mean age 18 years, 77% male
Brent et al 1993	Adolescen Under 19 suicide vic years	67	73.60% consecutive cases	communit of adolecsc country of residence matched	age, gend	67	4 Informants 1st rel+ & other R, L, E, VS consensus view	DSM-III-R No severity measure	
Cheng 1995	Members of 2 aboriginal groups and the Han chinese in Taiwan	113	96.5% consecutive cases	Two living randomly from census record	age, sex and area of residence		6 Informants 5 for control group 1st rel+ & other R, L, E, MS	DSM-III-R Severity measure	Of all suicides 72 were male 45 female Peak age older in Chinese
Duberstein et al 94	M & F Over 50 yrs & <50 yrs	52	No info Consecutive cases	Participant study on a matched hospital, and students at university	Age and g	52	1 Informant 1st rel+ & other MR, R, NEQ personality inventory	DSM-III-R SCID	Extraversion was higher in younger victims, openness and conscientiousness was lower
Farberow et al 90	Vietnam V mean age Male 31 years	22	No info Consecutive cases	Vietnam v who died in motor vehicle accidents	Not discus	21	1 Informant 1st rel+ & other R, E, IS	Self made scales of deprn and psychosis no severity measure	

Geog area	Suicide pop Age studied	Numbers analysed	Representativeness	Controls	Match	Numbers Analysed	Techniques Employed	Measures	Demographic risks
Gould et al 96	New York City	120	70.50% consecutive cases	communit age, sex a of adolec ethnicity matched	age, sex a	147	1st rel+ & other IS and Coddington Life Event Schedule	No info	Suicide victims were more often male, older and less likely African American
Heikkinen et al 1997	Finland	56	79% random sample	Non perso disorder suicide victims	Age and sex matched	56	2.8 Informants 1st rel+ & other MS, MR, R, L, E, IS, no severity measure	DSM-III-R No severity measure	
Henriksson et al 1995	Finland	60	100% consecutive cases	Suicide vi without ca sex matched history	Age and sex matched	60	2.9 Informants 1st rel+ & other MS, MR, R, E, IS consensus view	DSM-III-R No severity measure	-
Isomeisa et al 1996	Finland	66	99% random sample	Non perso disorder suicide victims	Age and sex match	67 1 lost	2.7 Informants 1st rel+ & other MS, MR, R, L, E, IS, consensus view	DSM-III-R No severity measure	-
Lesage et al 1994	Quebec City	75	35.40% Consecutive cases	Random c age, marit the polling occupation and of each su neighbourhood	age, marit	75	1 Informant 1st rel+ & other MR - secondary care R, E, MS, SADS	DSM-III-R No severity measure	-
Schaffer et al 1996	New Jersey, Connecticut, New York state	120	70.50% consecutive cases	communit age, sex a of adolec ethnicity matched	age, sex a	147	3 Informants 1st rel+ & other R, L, E, MS SADS, PSE	DSM-III-R No severity measure	71% were less than 13 years
Shafii et al 85	Jefferson County USA	20	83% Consecutive cases	The victim sex, race, income, education, religion, father's income matched	sex, race, income, education, religion, father's income	17	1st rel+ & other MS, MR, R, E Mod schedule, IS	DSM-III-R No severity measure	90% male
Shafii et al 88	Jefferson County USA	21	80% Consecutive cases	The victim sex, race, income, education, religion, father's educ matched	sex, race, income, education, religion, father's educ	21	1st rel+ & other MS, MR, R, E Mod schedule, IS	DSM-III-R No severity measure	90% male
Wolford et al 91	USA	48	No info Convenience cases	Present in Not discus both new & long term	Not discus both new & long term	224	1st rel+ & Diagnostic MS-secon interview MR R, L, no severity measure	-	



# SUBJECTS

SUBJECTS	Comorbidity	Life Events	Social Interaction	Additional Factors	Warning Signs	Demographic differences
Mental Disorder Barracough and Pallis 75	84% suffered insomnia, 17% impaired memory and 17% self neglect 45% had been ill longer than six months			single cases were twice as common, and married half as frequent 42% lived alone	Past suicide attempts in 41% of cases. Family history of mental illness no difference	- More females were in degn group
Brent et al 88	High rate of affective disorders - 63%. 92% had a psychiatric diagnosis at time of suicide, high prevalence of bipolar disorder	18.5% co of affective and attention deficit disorders	-	no diffts in interpersonal conflicts, seen to be a precipitator for suicide	33.3% had one or no mental health visits in life time	- mean age 15.6 yrs 42.95 male
Brent et al 1993	89.6% met definite disorder, major depression in 95% of cases 58% had past treatment 40% affective disorder	63.3% rate of comorbidity of affective disorder with substance abuse, conduct disorder and anxiety disorder			76.8% had suicidal ideation, with 26% previously attempting	-
Brent et al 1994	95% had an affective disorder diagnosis, 73% had major depression 7.9 % psychotic 98% were currently in depressive episode	higher rat comorbid depression and substance abuse			35.5% had substance abuse higher rate of past suicidal behaviour	-
Cheng 1995	90% in each group had major depression Rates of dysthymia higher in aboriginal groups	28% had dysthymia, comorbidity was common in 56% of cases. Major degn with substance abuse 46%		Family history of suicide and degn was highest in aboriginal group	Alcohol abuse and dependence was prevalent, esp in Aboriginal groups	-
Duberstein et al 94	older suicides had more affective disorder, with those younger showing more presence of schizophrenia	substance in younger suicides			Scored higher on neuroticism, lower on openness scores	-
Farberow et al 90	59% were hospitalised due to emotional problems This group were reported to have showed a greater number of depressive symptoms	A higher fr emotional and mental probs in this group.		68% were unmarried	41% were unemployed at time of death. Sig more of suicide gr had stopped attending church after military service	55% talked suicide, 32% attempting previously

# SUBJECTS

SUBJECTS	Comorbidity	Life Events	Social Interaction	Additional Factors	Warning Signs	Demographic differences
Mental Disorder Gould et al 96	-	-	-	48.3% from a disciplinary, and 53.6 non-intact family loss as a recent negat of origin. Many had poor communication with parents	36.6% had mother with mood disorder A family history of suicide behaviour in 17.40%	-
Heikkinen et al 1997	98% had Axis I disorders 73% depressive syndromes	high como 90% had 11% with recent interpersonal abuse loss	-	More often had companion of opposite sex, but lived alone	-	-
Henriksson et al 1995	85% received a psychiatric daignosis 80% depressive disorder 7% psychotic disorders	-	-	-	Lower rate of alcohol dependence	-
Isometsa et al 1996	All those with PD were assigned at least 1 Axis I diagnosis. 95% depressive syndromes. higher for Cluster B PD's	98% clust. comorbidity with other syndromes	-	-	79% of Cluster B suffered from psychoactive substance abuse disorders	In cluster no contact in last 3 months with health care was higher
Lesage et al 1994	In 88% of cases at least 1 Axis I disorder identified 57.35 had an Axis II diagnosis. 60% suffered a depressive disorder	Comorbidi 69.35 had high weighted causal I and II dia stress, separation fro to divorce or behav partner 32%, moving probs 49.3%.	Recent life events an 24% suffered seper- ation from parents due to divorce or behav	-	most common disord were maj dephn, substance dependenc with psych services and borderline pers- 29.3% used psych onality disorder	Fewer tha had been in contact
Schaffer et al 1996	90% met diagnosis for at least 1 psychiatric disorder, 61% mood dis	70% had c diagnoses, comination of mood and SAA disorders accounted for 50%	-	-	33% had made a prev suicide attempt 46% had contact with mental health services	-
Shafii et al 85	45% had previous psych treatment 70% showed anti social behaviour	70% frequ and alcohol	-	no sig diffs in family situations	65% had previous ex to suicide, 85% expressed suicidal ideation, 40% had previously attempted	-
Shafii et al 88	95% fulfilled criteria for Axis I mental disorder 76% had mood disorders specifically 38% had major dephn, 29% were diagnosed with personality order	81% had c disorders 38% had depressive disorder with substance abuse	-	Psychosocial stress was an important factor	48% had presence/hi of a physical disorder	-
Wolford et al 91	43% had affective disorder, 27% schizophrenia/psychotic disorder, 28% personality disorder.	Over 50% had been seperated from an immediate other just before suicide	-	High level of cases un married, and were more likely to live alone	69% had at least one previous attempt	-

CONTROLS	Comorbidity	Life Events	Social Interaction Factors	Additional Factors	Warning Signs
Mental Disorder					
Barracough and Pallis 75	64% suffered insomnia, 25 impaired memory and 1% self neglect, much lower than suicides	-	-	7% are living alone	4% previously attempted suicide
Brent et al 88	67.9% had affective disorders, 91% had a psych diagnosis at time of attempt. Low prevalence of bipolar disorder	3.6% only comorbidity of affective and attention deficit disorders	-	Interpersonal conflict a precipitator for attempts	66.7% had 1 or more mental health visits in lifetime
Brent et al 1993	34.3% suffered a psych disorder, 10.6% an affective disorder 16% previous treatment	Only 4.5% comorbid substance abuse	-	-	0% had suicidal ideation with 1.5% previous attempts
Brent et al 1994	56.5% had an affective disorder, 21.7 major depression, 0% psychotic 56% currently in depressive episode	0% comorbid with substance abuse	-	-	-
Cheng 1995	-	Comorbidity low in control group	-	-	Alcohol abuse similar to subject groups
Duberstein et al 94	-	-	-	-	Openness was higher in controls, neuroticism lower.
Faberow et al 90	10% were hospitalised due to emotional probs	-	-	41% were unmarried	Sig higher presence of alcohol in the blood in non suicide victims. 5% were unemployed at time of death 10% talked of committing suicide, 10% attempting
Gould et al 96	-	-	Lower rate of negative life events, 39.9% experiencing loss	33.3% from a non-intact family of origin	21.9% had mother with mood disorder history of family suicide in 7%
Heikkinen et al 1997	66% had depressive disorders	0% comorbid with alcohol	Only 19% had experienced recent interpersonal	-	-

CONTROLS	Comorbidity	Life Events	Social Interaction Factors	Additional Factors	Warning Signs
Mental Disorder					
Henriksson et al 1995	100% received a psychiatric diagnosis, 82% depressive disorder 22% psychotic disorders	-	-	-	Alcohol dependence more common
Isometsa et al 1996	Sig less depressive disorders than cluster B but no diff from cluster C.	-	-	-	Suicide more commonly assoc with physical dis, 40% with psychoactive substance disorders only
Lesage et al 1994	37.3% had an Axis I diagnosis and 25.3% had an Axis II diagnosis 14.7% suffered a depressive disorder	Comorbidity: Lower level of recent much low life events and less group stress felt	9.3% suffered separation from parents	-	2.7% used psych out-patient servs
Schaffer et al 1996	4% suffered from mood disorders 76% had no diagnosis	-	-	-	20% had contact with mental health services
Shafii et al 85	24% had previous psych treatment, 24% showed anti social behaviour	29% used and alcohol frequently	-	-	18% had previous exposure to suicide with 18% expressing ideation 6% previously attempted suicide
Shafii et al 88	48% fulfilled Axis I criteria for mental disorder 24% had mood disorders specifically 5% major depn, 10% were diagnosed with personality disorder	29% had c diagnoses 5% had comorbid depn and substance abuse	Less psychosocial stress was exp by the controls	-	-
Wolford et al 91	19% with affective disorder 47% with schizophrenia, 28% with personality disorder	-	Maj of cases unmarried	-	-

### **3.5 RESULTS**

A total of 132 papers were acquired from the database search. Seventy one papers met the criteria for inclusion of which the majority, fifty five, were case series studies and the minority, sixteen, were case control studies.

With respect to the case series studies, the largest study found in this systematic review was that conducted by Lonnqvist's group in Finland. All papers, twenty six case series studies, from this group were from a database of 1397 suicides collected over a period of one year in Finland. Seven case series studies from Conwell's group in New York and five case series from Rich's group in San Diego were the next largest study groups.

The majority of case series studies examined subpopulations of suicide victims. These subpopulations were variously described in terms of age, sex and diagnostic category.

With respect to the case control studies, all studies examined specific subpopulations.

Two studies (Isometsa et al, 1996; Heikkinen et al, 1997) examined personality disordered suicide victims and used non-personality disordered suicide victims as controls.

A total of seven studies examined cases of adolescent suicides. The control groups in these were as follows :-

one study (Brent et al 1988) used suicidal in-patients as a control group; four studies (Brent et al, 1993; Brent et al, 1994; Gould et al, 1996; Schaffer et al, 1996) used community samples of adolescents; two studies (Shaffii et al, 1985; Shaffii et al, 1988) used the victims' friends as controls.

One study (Lesage et al, 1994) specifically examined young male suicides and used a random living control from the polling division of each subject.

One study (Henriksson et al, 1995) focused on cancer sufferers who had committed suicide and used suicide victims with no history of cancer as controls.

One study (Barraclough & Pallis, 1975) examined depressed suicide victims and used living controls who had been referred to psychiatric services suffering from depression. Another (Wolford et al, 1991) employed psychiatric in-patient suicides as cases and used new and long-term living in-patients as controls. One study (Faberow et al, 1990) examined suicide among Vietnam Veterans and used a group of Veterans who died in road traffic accidents as controls.

Lastly, one study (Duberstein et al, 1994) split their suicide population into those older and younger than 50, using living student controls.

## **Mental Disorder**

### **Case Series Studies :-**

Forty five case series studies (82%) described mental disorder in the suicide cases. Of these twenty nine (64%) reported the majority (i.e. > 50% of the sample) as suffering from a mental disorder. Affective disorder was the most commonly diagnosed condition.

Thirteen studies provided percentages of those diagnosed with any mental disorder. The median was 91% (range, 23%- 100%).

Seventeen studies described percentages of those suffering from affective disorder specifically. Here the median was 63% (range, 32%- 93%)

### **Case Control Studies**

Fifteen out of sixteen studies (94%) reported cases as having a mental disorder.

Thirteen out of sixteen studies (81%) made a diagnosis in the controls. In those studies which reported percentages for mental disorder the overall rates were as follows:-

**cases** :- median rate of mental disorder : 90% (range, 59%-100%)

**controls** :- median rate of mental disorder : 42.6% (range, 10%-100%)

On separating the studies by control groups, the rates are as follows:-

Deceased controls; the median rate of mental disorder in cases was 90% (range, 59%-98%) and in controls was 66% (range, 10%-100%).

Living community controls; median rate in cases 90% (range, 70%- 95%) and in controls 35.8% (range, 24%-56.5%).

Living patient controls : median rate in cases 43% (range, 27%-92%) and in controls 28% (range, 19%-91%)



## **Comorbidity**

Comorbidity is an important aspect of the overall picture of mental disorder. A high level of comorbidity was noted in those studies which measured and rated the phenomenon. Alcohol and substance misuse were the commonest comorbid diagnoses, particularly with affective disorder.

### **Case Series Studies**

Thirty six out of fifty five case series studies (65%) recorded comorbidity. The most prominent comorbid diagnoses were alcohol and /or substance misuse.

Of these twenty eight studies reported a percentage level of comorbidity. The median rate of comorbidity was 50.6% (range, 7.5%-100%).

### **Case Control Studies**

Twelve out of sixteen case control studies (75%) reported on comorbidity in cases.

Eight (50%) of these compared comorbidity between cases and controls.

In all of these eight studies the cases had higher levels of comorbidity than the controls.

In those case control studies which reported percentages for levels of comorbidity the overall rates were as follows:-

**cases** :- median rate: 69% (range, 11%-98%)

**controls** :- median rate: 4.5% (range, 0%-29%)

On separating the studies by control groups, the rates are as follows:-

Deceased controls : only one study in this group provided percentage levels for cases and controls and 11% of cases exhibited comorbidity and 0% of controls.

Living community controls ; median rate in cases 69% (range, 56%-81%) and in controls 4.5% (range, 0%-29%)

Living patient controls : again, only one study reported percentage levels for both cases and controls, 18.5% and 3.6% respectively.

### **Adverse life events**

#### **Case Series Studies**

25 studies out of 55 case series (45%) reported on adverse life events. Nine studies recorded recent life stress as significant i.e 24 hours - 3 months before death by suicide. The stressors were as follows: - eight studies recorded interpersonal loss or separation as stressors; one study recorded unemployment; one recent discharge from hospital; one deteriorating physical ill health; five miscellaneous or non-specific stressors. In total nineteen studies recorded the number of cases who suffered adversity as a percentage. The median rate was 50% (range, 10-100%)

#### **Case Control Studies**

Four out of sixteen case control studies (25%) reported on life events in the cases. These adversities involved interpersonal loss or separation and work-related disciplinary problems.

Of these only two studies reported on comparisons of cases and controls in terms of life events. One study used suicide victims and 90% of cases had experienced recent interpersonal loss in contrast to only 19% of controls.

One used community samples as a control group - 53.6% of cases had a recent loss compared to 39.9% of controls.

### **Case Control Studies**

The remaining factors examined in this review (social interaction, "other findings" and warning signs) were not reported in any systematic way and are best described under the following headings:-

### **Contact with health care services**

#### **Case Series Studies**

Fifteen case series studies reported on this area. The median rate of regular contact with health care services among cases was 40% (range, 0%-93%).

#### **Case Control Studies**

Only three case control studies reported levels of health care contact in cases and controls. One study used living psychiatric in-patients as controls and reported 33.3% of cases in regular contact in contrast with 66.7% of controls. The other two studies used living community controls and both reported higher contact levels among cases, 29.9% and 46%, than controls, 2.7% and 20% respectively.

## **Declared suicidal ideation and/or communication of suicidal intent**

### **Case Series Studies**

Ten case series studies reported in this area. The median rate of declaration of suicidal ideation and/or intent was 56% (range, 21.5%-83%).

### **Case Control Studies**

Three case control studies reported in this factor in cases and controls. One employed deceased controls (Vietnam Veterans killed in RTAs) and 55% of cases described suicidal ideation or intent as opposed to 10% of controls. The other two studies employed living community controls. One study found 76.8% of cases and 0% of controls, the other reported 85% of cases and 18% of controls as reporting suicidal ideation/intent.

## **Previous deliberate self harm**

### **Case Series Studies**

Three case series studies reported on a past history of deliberate self harm. (range, 5%-41%). Two of these studies employed living controls. Levels of previous deliberate self harm were 30%, 32% and 63%.

### **Case Control Studies**

Four studies reported on this factor in cases and controls. The median rate among cases was 36% (range, 25%-41%) and among controls was 5% (range, 1.5%-10%).

One study used an in-patient control group where the rate in cases was 41% and that in controls was 4%. Two studies used living community controls where the case rate in one study were 40% and in controls was 6% and case rate in the other was 26% and in controls 1.5%. One study used deceased controls and here the case rate was 32% and control was 10%.

### **Social isolation /loss/ social problems**

This category included three aspects :-unemployment, living alone or family break up and coming from a non-intact family of origin

#### **Case Series Studies**

Seven studies reported on these factors which related to living alone or family break up. The median rate was 50% (range, 25%-63%).

#### **Case Control Studies**

Four studies reported rates among cases and controls. The median rate in cases was 42% (range, 24%-68%) and among controls was 9.3% (range, 5%-41%). Two of these studies employed living community controls. One study reported a case rate of 48.3% and a control rate of 33.3%.The other study reported a case rate of 24% and a control rate of 9.3%. Both these sets of figures relate to coming from a non-intact family of origin.

One study used living depressed patients as controls with a case rate of 42% and a control rate of 7%. This relates to living alone.

One study used deceased controls and described two factors.

68% of cases lived alone compared to 41% of controls. 41% of cases were unemployed compared to 5% of controls.

### **Physical ill health**

#### **Case Series Studies**

Four studies reported on physical ill health. The median rate was 25% (range, 15%-52%).

#### **Case Control Studies**

No studies reported on physical ill health among cases and controls.

### **Population attributable fraction (PAF)**

Table 9 shows the results of the population attributable fraction calculation from the four case control studies which provided the necessary data on both cases and controls and which did not control for particular sub-groups of diagnoses. All four studies examined young adult or adolescent populations and all four studies use living community control groups.

It is clear from these results between 50% and 70% of suicides examined in these case controlled studies were attributable to mental disorder.

Affective disorders ( 54%-90%) and substance abuse (71%-90%) appear to contribute highly to suicide rates in those studies which examined for these categories.



ID	Any mental disorder			Affective disorder			Comorbidity with other MD			Comorbidity with substance abuse			Comorbidity with PD		
	P(E/D)	RR	PAF	P(E/D)	RR	PAF	P(E/D)	RR	PAF	P(E/D)	RR	PAF	P(E/D)	RR	PAF
Shaffii 88	95%	1.98	47%	76%	3.2	52%	81%	2.79	52%	38%	7.6	33%	29%	0.65	19%
Brent 93	89.6%	2.61	55%	49.3%	4.74	39%	48.5%	6.46	41%	27.3%	6.1	23%			
Lesage 94	88%	2.34	50%	60%	4.22	46%							57.3%	2.26	32%
Schaffer 96	90%	3.75	66%	61%	15.2	57%									

Table 9 ; **P(E/D)**=proportion of cases exposed to factor; **RR**= risk ratio; **PAF**= population attributable fraction.

### **3.6 DISCUSSION**

The majority of studies using psychological autopsy were case series not case controlled investigations.

This study supports the view that mental disorder and comorbidity (particularly affective disorders comorbid with substance abuse) are the most prominent antecedents to suicide.

Forty five case series studies (82%) described mental disorder in the suicide cases. Of these twenty nine (64%) reported the majority (i.e. > 50% of the sample) as suffering from a mental disorder. The median was 91% (range, 23%- 100%). Affective disorder was the most commonly diagnosed condition. The median was 63% (range, 32%- 93%)

Fifteen out of sixteen case control studies (94%) reported cases as having a mental disorder. Thirteen out of sixteen studies (81%) made a diagnosis in the controls. The median rate of mental disorder in cases was 90% (range, 59%-100%) and in controls was 42.6% (range, 10%-100%)

Thirty six out of fifty five case series studies (65%) recorded comorbidity. The most prominent comorbid diagnoses were alcohol and /or substance misuse.

The median rate of comorbidity was 50.6% (range, 7.5%-100%).

Twelve out of sixteen case control studies (75%) reported on comorbidity in cases. The median comorbidity rate in cases was 69% (range, 11%-98%) and in controls was 4.5% (range, 0%-29%).

With respect to adverse life events, the median rate in case series studies was 50% (range, 10-100%). Only two case control studies reported on both and in both adversity was high in cases than controls (90% vs 19% and 53.6% vs 39.9%).

The median rate of regular contact with health care services in case series studies was 40% (range, 0%-93%). Of the three case control studies which reported on this factor, one study reported 33.3% of cases in regular contact in contrast with 66.7% of controls. The other two studies used living community controls and both reported higher contact levels among cases, 29.9% and 46%, than controls, 2.7% and 20% respectively.

The median rate of declaration of suicidal ideation and/or intent in case series studies was 56% (range, 21.5%-83%). The three case control studies reporting on this all recorded higher rates in cases than controls (55% vs 10%; 76.8% vs 0%; 85% vs 18%).

A relatively small number of case series studies (n=3) made a note of previous deliberate self harm: the median rate was 32% (range, 30%-63%).

In the case control studies, the median rate of previous deliberate self harm among cases was 36% (range, 25%-41%) and among controls was 5% (range, 1.5%-10%).

In the category relating to social isolation/ problems/loss, the median rate was 50% (range, 25%-63%) for case series studies and concerned family break up or living alone. In the case control studies, the median rate in cases was 42% (range, 24%-68%) and among controls was 9.3% (range, 5%-41%). These rates concerned: living alone, coming from a non-intact family of origin and being unemployed.

Lastly, in respect of physical ill health, the median rate in case series studies was 25% (range, 15%-52%). No case control studies reported on physical ill health among cases and controls.

In summary, the most convincing evidence in terms of data is that concerning the high levels of mental disorder and comorbidity recorded in those who committed suicide. The case series studies clearly report this evidence, but it is perhaps most convincingly demonstrated in the case control studies.

It was possible to produce, from the relevant case control studies, a quantification of the role of mental disorder as a risk factor for suicide. The population attributable fraction (PAF) for mental disorder in relation to suicide was between 50% and 70%. Put another way between 50% and 70% of suicides in these studies could be attributed to mental disorder, by extrapolation.

It was also possible, in some studies, to break mental disorder down into separate categories. Affective disorders (PAF: 54%-90%) and substance abuse (PAF: 71%-90%) would appear to be the greatest risk factors for suicide among mental disorders. These PAFs suggest that effective treatment or better still, prevention, of mental disorders would reduce the suicide rate.

With respect to the other variables examined, overall the number of case series and case control studies which reported was small. The quality of the data was consequently lower and it was more difficult to draw valid conclusions.

Nevertheless, from the limited data available it was evident that adverse life events are important and were commoner in cases than controls. This was also the case for communication of suicidal ideation/intent, for previous deliberate self harm and for measures of social isolation. Only case series studies commented on physical ill health.

The data relating to contact with health services was less clear, in that one case control study found a higher level of contact among controls than case. This study used living psychiatric in-patients as controls. The use of psychiatric controls may explain the higher rate of contact among controls. Another interpretation may be that the higher contact among cases found in the other studies may indicate that consultations were not dealing with issues surrounding mental disorder or distress. Another explanation may be that communication of intent was not dealt with seriously, effectively or that risk was not adequately assessed. High levels of contact may also imply the opposite i.e. a higher level of concern on the part of the doctor. However, it is not possible to answer this question definitively with the evidence available.

### **3.6.1 LIMITATIONS**

There are, of course, limitations to the systematic review technique.

The aim of this systematic review was to examine all available studies using psychological autopsy and to determine the extent to which one of the most reported risk factors for suicide, namely mental disorder, was present in suicide victims.

The comprehensiveness of study identification is crucial in systematic reviews. It has been reported that electronic databases, such as Medline, may only detect approximately 50% of papers identified by a hand search (Chalmers et al, 1992). The usefulness of contacting other experts in the field has also been examined but this is most important in areas which are developing or cross boundaries with other fields (McManus et al, 1998). Suicide is a well established research area with findings published in core medical and psychiatric journals. Therefore, it is likely that this review was a comprehensive survey of the field.

The use of psychological autopsy technique itself is not without controversy.

Information from autopsies must be limited to only what those interviewed had observed. Certain facts surrounding aspects of the life of the deceased may not be known to the informant. These limitations can be addressed in part by the accessing of corroborating information from as many other sources as possible.

Recall bias can be present in both selective remembering of good characteristics as well as selective forgetting of aspects which may cast the deceased in a bad light. This form of bias can result in unreliable information being given to the interviewer. However, this bias pertains more to aspects of an individual's behaviour and responses to life events. The presence and severity of mental disorder and comorbid conditions can be verified from third party sources such as medical records and by interviewing the professionals concerned with the care of the deceased.

Both case series and case control studies examined a variety of specific subpopulations. This could lead to difficulty in drawing overall conclusions, but the techniques employed were very similar and the consistency of findings within the main categories of mental disorder and comorbidity is marked.

There were only four case control studies which fulfilled the criteria for calculating population attributable fractions. All four examined young populations of suicide victims. However, the results support the data from the systematic review in that the evidence for mental disorders as key risk factors for suicide is robust.

### **3.7 CONCLUSIONS**

It is clear that mental disorder and comorbidity are key risk factors for suicide.

Affective disorders were the most prominent mental disorder and of alcohol and substance misuse were the most common comorbid conditions. With respect to the other findings from the review, the role of adverse life events as precipitants, especially interpersonal loss or conflict, and the danger posed by social isolation, fit well with both the hierarchical and process models of suicide.

The questions of what can be done to limit the impact of risk factors and of what role medical practitioners have to play in this regard can be partly addressed by the findings of this review.

The attenuation of the impact of mental disorder and comorbidity can be addressed by the medical profession whose role in this is highlighted by several findings :- the treatment of mental disorders and their comorbid conditions; the engagement and maintenance of patients in appropriate services; the importance of recognising a history of deliberate self harm and of listening to declarations of intent ; comorbid physical illness; monitoring of adequate treatment regimes for mental disorders, in general, and for affective disorders in particular. This systematic review also illustrates the need for more well designed, case controlled psychological autopsy studies. The data also supports the efforts placed in so-called high risk strategies which concentrate on the recognition and treatment of mental disorder as a priority in the prevention of suicide.



## 4.1. INTRODUCTION

It is clear that suicide is a complex phenomenon. Suicide has been identified as a priority issue for governments and the public alike, and by the United Nations (2002).

However, there are a number of risk factors that have been identified to reduce the suicide risk. These factors are not independent of each other, and there are no clear cut lines between them. Therefore, it is difficult to identify

### **The Case Controlled Psychological Autopsy Study**

#### *Associations*

Certain factors have been shown to be related to suicide risk. The relationship with suicide is not always clear, and the most natural association is the relationship between suicide and mental illness (see above). However, the relationship between suicide and mental illness is not always clear, and the relationship between suicide and mental illness is not always clear.

However, although the factors are related to suicide risk, the relationship between suicide risk and mental illness is not always clear. The general population, they do not seem to be related to suicide risk. The risk group such as those who are at risk of suicide, they do not seem to be related to suicide risk.

#### **4.1 INTRODUCTION**

It is clear that suicide is a major public health problem and has been identified as a priority area for research by the World Health Organisation and by the United Kingdom government.

However, there are a number of difficulties facing any concerted attempt to reduce the suicide rate. Among these is the observation that suicide is not an independent entity or disease process, but an end-point. As such, there are no clear cut causes in the conventional sense, rather there are multifactorial associations.

##### *Associations*

Certain factors have been shown repeatedly to have a statistical relationship with suicide. Among these mental disorder has one of the most robust associations. The systematic review of psychological autopsy studies (see above) provides clear indications as to the importance of this association.

However, although risk factors like mental disorder may discriminate suicide risk between groups e.g. those with mental disorder compared to the general population, they do not help in discriminating within a high risk group such as those with mental disorder or previous deliberate self harm.

This implies that additional factors must be involved in the overall process which differentiates those with similar mental disorders who take their own lives from those who do not. There are a variety of possible candidates for these. Two such candidates which have been implicated in compounding the risk of suicide in vulnerable individuals are :-

- 1) adverse life events or stressors
- 2) individual personality traits

With respect to adverse life events, uncontrolled studies have identified potential precipitants to the suicidal act including:- interpersonal loss and conflict, financial difficulties and the effects of physical illness (Dorpat and Ripley, 1960; Beskow, 1979; Chynoweth et al, 1980; Robins, 1981; Rich et al, 1988; Asgard, 1990; Heikkinen et al, 1992).

Adverse life events are, however, common to the general population and there is a clear need for controlled studies in this area. Comparative studies of life events and suicide with general population controls have found an excess risk of suicide in the 4-5 years following bereavement of spouse or parent, particularly in males (Bunch et al, 1971; Bunch, 1972; MacMahon and Pugh, 1965). Studies which have included psychiatric patients as controls have demonstrated that acute adverse life events such as interpersonal loss and chronic, long-term difficulties have been associated with an increase in suicide risk (Bolin et al, 1968; Rorsman, 1973; Pokorny and Kaplan, 1976; Humphrey, 1977; Fernando and Storm, 1984).

The recency of adverse life events in relation to the suicidal act was especially clear in the above systematic review of psychological autopsy studies.

With respect to individual personality factors there are four major research avenues which suggest that temperament and personality functioning are parts of the vulnerability to suicide :-

- 1) studies of suicide risk as predicted by premorbid personality assessments
- 2) studies of suicidal behaviour in diagnosed personality disorders
- 3) studies of personality traits and disorders in those who have attempted suicide
- 4) psychological autopsy studies of suicide victims

Those which have examined suicide risk with respect to premorbid personality highlight impulsivity, anger, hostility and aggression as possible predictors of subsequent suicidal behaviour (Angst and Clayton, 1986; Epstein et al, 1973; Romanov et al, 1994)

With regard to specific diagnoses of personality disorder, studies have focused particularly on suicidal behaviour in borderline personality disorder. Within this group a higher lifetime history of suicide attempts is recognised as well as the the enduring nature of suicidal expressions and characterological anchoring of suicidal inclinations (Mehlum et al, 1994).

The examination of personality traits in addition to personality disorders in relation to deliberate self harm indicate that personality disorders and pathological personality traits are common in suicidal patients and suggest an association between suicidal behaviour and affective instability in personality disorders ( Casey, 1989; Raczek et al, 1989; Rydin et al, 1990).

Finally, informant based psychological autopsy studies of suicide victims indicate that for those with personality disorders , increased anxiety and aggression may be critical factors in the process which leads to suicide (Brent et al, 1994; Duberstein et al, 1994; Runeson, 1989).

The systematic review above has examined psychological autopsy studies.

The early studies using this method concurred in identifying mental disorder in a high proportion of suicides (Robins et al , 1959, Dorpat and Ripley, 1960 and Barraclough et al, 1974) and the systematic review of studies to date supports these original findings.

As a methodology, it has also been used to examine adverse life events and personality variables in relation to suicide. These are highly significant in the minds of close relatives (Heikkinen et al, 1994). The direct interviewing of informants is, therefore, an important method of capturing details which may highlight important distinguishing factors in the deceased.

However, if the goal is the reduction of suicide rates such factors are only of practical use in the context of case controlled studies. What is clear from the above literature reviews is the lack of case controlled studies in general and among psychological autopsy studies in particular.

In summary, suicide is a major public health problem and has been highlighted as a priority area by the WHO and the UK government. The Scottish suicide trend is cause for concern. While it is recognised that mental disorder entails a high risk of suicide, other variables may operate alongside, as not all with mental disorder commit suicide. Suicide prevention and a reversal of the upward trend require the appropriate tools.

The psychological autopsy can be used as an aid in the search for such tools. Case controlled psychological autopsy studies of high risk groups, such as those who had suffered from a mental disorder, may allow the elucidation of factors which discriminate between those at higher and lower risk of suicide.

## 4.1 DESIGN AND MEASURES

### **4.2 STUDY AIMS**

This study was a retrospective case-control study in which the techniques of psychological autopsy were used to identify

1) To use the psychological autopsy to describe the demographic, health status, personal and social circumstances of a representative group of people registered as dying from suicide or undetermined cause over a two year period ( 1996-1998) in South East Scotland.

2) To acquire identical information on a group of living controls matched for age, sex and mental disorder.

originally designed by the Institute of Psychiatry, Edinburgh, and the University of Edinburgh Department of Psychiatry and produced a

3) To identify antecedents which differentiate those with mental disorder who die by their own hand from those who do not . To aid such identification, the following aims were pursued :-

- i) To identify the contribution of health-related variables
- ii) To identify the contribution of adverse life event stressors
- lii) To identify the role of individual personality variables

### **4.3 DESIGN AND MEASURES**

This study was a retrospective case controlled study employing the technique of psychological autopsy. This method was used to interview the informants of deceased individuals and of living controls. Approval for the study was granted by the Lord Advocate, the Office of the Procurator Fiscal and the local area ethics committee for psychology and psychiatry.

#### **4.3.1 The Psychological Autopsy**

The schedule for this psychological autopsy (see Appendix B) was originally designed by the former MRC Epidemiology Psychiatry Unit of the University of Edinburgh Department of Psychiatry and comprises a detailed questionnaire covering the following areas (see table 10).

The psychological autopsy was conducted in face to face interviews with the informants of cases and controls.



**Table 10**

**MAIN AREAS OF INQUIRY IN PSYCHOLOGICAL AUTOPSY**

**biographical and personal details**

personal relationship history.  
living arrangements  
details of family history of mental disorder;

**medical history**

Informants view as to whether case/control was physically well  
on-going treatment for physical illness by GP or hospital consultant  
diagnosis of serious physical illness  
restriction of physical activity  
diagnosis of terminal illness  
presence of chronic pain  
length of registration with GP  
number of GP visits over previous 3 years

**psychiatric history**

GP consultations for psychological problems  
last appointment with GP  
any psychiatric contact  
treatment history  
last psychiatric appointment  
total duration of contact with mental health services  
details of deliberate self harm history  
out patient and inpatient history

**socio-demographic details**

employment record, social activities and degree of social involvement  
political activities including voting pattern i.e. regularity of voting at general elections and whether voted in last election  
involvement with political parties and other groups  
religious involvement and degree of engagement  
details of social integration and extent of everyday social contact  
availability of attachments and confidants  
contact with suicidal behaviour.

#### **4.3.2 Additional Scales (See Appendix C)**

i) The Schedule for Affective Disorders and Schizophrenia - Lifetime Version (SADS - L) (Spitzer & Endicott, 1978) was used to ascertain the nature and severity of psychiatric morbidity. Further estimates of the severity of illness were made from the internal ratings of symptom severity in the SADS-L, duration of last episode and total lifetime duration of illness.

ii) The Personality Assessment Schedule (PAS, Tyrer et al, 1988) was adapted for use in the study. This scale was used to measure personality traits in the cases and controls. The PAS is a structured scale which includes ratings on a nine point scale for 24 key premorbid personality features. The scale has been shown to have a satisfactory inter-rater and temporal reliability.

For the purposes of this study an adaptation of the scale was implemented. In essence, this involved a four point scale, rather than a nine point scale. Informants were asked the screening question and offered four options in their response:-

never, rarely, sometimes and always.

iii) The Interview for Recent Life Events (Paykel et al, 1971) was employed to examine the presence of adverse life event stressors in cases and controls. The schedule comprised 64 questions relating to a range of events. These questions can be grouped together into ten major categories:- work, education, financial, health, moves/migration, courtship, legal, family, marital and other (see table 11). The number, nature and negative impact of life events as well as their independence from the illness were rated for each question.

a) Negative impact was rated on a scale from 1 -5 with 1 being severe negative impact, 2 marked negative impact, 3 moderate negative impact, 4 mild negative impact, 5 no negative impact.

b) Similarly, independence from illness was rated on a scale of 1-5 with 1 being complete independence from illness, 2 probably independent, 3 uncertain, 4 probably dependent on illness, 5 definitely dependent.

c) The reliability of witnesses as to what constitutes an immediate precipitant is open to debate (Paykel, 1983). However, previous studies have shown a preponderance of stressors within the 6 month period prior to death (Heikkinen et al, 1993). Therefore, only those events which occurred in this 6 month period before death for cases and before interview for controls were included.

Chronic on-going difficulties were rated in terms of their number and severity. These included major difficulties which were not datable but lasted for at least 12 months. Ongoing difficulties were coded in the same categories as acute events.

## LIFE EVENT CATEGORIES

### WORK

conditions  
hours  
problems  
promotion  
dismissal /  
redundancy  
retirement  
unemployed for >1  
month  
business failure

### EDUCATION

commencement  
change school  
cease education  
academic failure  
important exam

### FINANCIAL

moderate difficulty  
major difficulty  
substantial  
improvement

### HEALTH

major physical  
illness - self  
major physical  
illness - relative  
wanted pregnancy  
unwanted  
pregnancy  
miscarriage  
stillbirth  
termination  
birth of live child  
menopause

### BEREAVEMENT

death of significant  
other  
death of close  
family  
death of child  
death of spouse  
object loss

### MIGRATION

move within city  
move to other city  
move to other  
country

### COURTSHIP/ COHABITATION

engagement  
broken  
engagement  
cease steady date  
serious arguments

### LEGAL

minor violation  
major violation  
jail sentence  
law suit  
legal problems of  
close family

**FAMILY AND  
SOCIAL**

**MARITAL**

birth of child -father

marriage

adoption/fostering

serious arguments  
with spouse

new person in  
household

marital separation-  
not due to  
argument

child engaged

marital separation -  
due to argument

child married -  
approved

extramarital affair of  
partner

child married -  
disapproved

child leaves home -  
other than marriage

begin extramarital  
affair

serious arguments  
with resident family

marked  
improvement in  
marital relations

serious arguments  
with nonresidents

marital  
reconciliation

marked  
improvement in  
relations

divorce

separation from  
significant other

**OTHER**

marital problems of  
close family

any event not  
classified above

**ONGOING  
DIFFICULTIES**

lasted at least 12  
months but not  
dateable

**TABLE 11**

## **4.4 RATIONALE FOR THE ABOVE MEASURES**

### **4.4.1 PSYCHOLOGICAL AUTOPSY**

As described above, the psychological autopsy technique aims to acquire as much information as possible on the deceased from those who knew them best. This technique has been shown to be a reliable method of eliciting clinical and socio-demographic information about the deceased. There is good evidence that diagnoses arrived at by means of psychological autopsy correlate highly with ante-mortem diagnoses (Kelly et al, 1996).

### **4.4.2 SCHEDULE FOR AFFECTIVE DISORDERS AND SCHIZOPHRENIA - LIFETIME VERSION (SADS-L)**

This schedule allowed a lifetime diagnosis to be made using informant information and corroboration from medical case notes. Information regarding the last episode of illness was also acquired. The SADS-L is a well validated schedule which permits diagnoses conforming to DSM IV criteria to be made in the cases allowing appropriate matching to living controls to be made.

#### **4.4.3 INTERVIEW FOR RECENT LIFE EVENTS**

The Life Events Scale (Paykel, 1971) was used to assess the degree of adverse life events in the six months prior to death in the deceased and six months prior to interview in the controls. The technique of interview rather than self report was chosen for a variety of reasons.

The study itself used informants, the cases being deceased. However, self report studies have been found to have a substantial fall-off of 4-5 % per month in contrast to interview studies which have more acceptable fall off rates of 1-3% per month (Paykel 1983). Moreover, the Life Events Scale does not conflate positive and negative events. Independence from mental disorder is specifically measured which allows adversity, separate from the mental disorder itself, to be assessed. The timing of events relates to those events in the last six months and uses anchor dates such as Christmas, birthdays, bank holidays etc. This improves the quality and reliability of informant recall.

#### **4.4.4 PERSONALITY ASSESSMENT SCHEDULE (PAS)**

The assessment of personality characteristics in this type of study can be especially distressing for relatives who are acting as informants. The negative aspects of the deceased's personality can be brought to the fore. With this in mind, an adaptation of the Personality Assessment Schedule (Tyrer et al, 1988), a schedule which has brief screening sections with cut-offs, was employed. The aim of this measure was to highlight the key personality traits in cases and controls.

## **4.5 SUBJECTS AND METHODS**

This study was conducted in South East Scotland over a two year period, 1996-1998. Thirty seven (82%) of the cases were from Edinburgh, 5 cases were from the immediate surrounding area, 2 were from Glasgow and 1 from the Lake District, although of the last three individuals, two spent most of their recent life in Edinburgh.

### **4.6.1 RECRUITMENT OF CASES**

Due to the Procurator Fiscals' jurisdiction operating in Scotland, the arrangements for case determination in this study were different from those of the Coroners' jurisdiction that would have been employed elsewhere in the UK.

One of the key features which differentiate the Fiscal's enquiry is its confidential nature. The Fiscals' Office and the local area ethics committee required that the request for participation by the informants in the study protocol came from the Fiscal concerned with the case, at the Fiscal's discretion. In practical terms, this involved the examining Fiscal handing the informant a letter of information on the study with a reply slip and stamped addressed envelope. Relatives could not be approached directly by members of the research team other than on receipt of an affirmative written reply. Nor was it possible to access the medical records of the deceased whose relatives had refused to participate.



These arrangements yielded relatively few cases. For this reason the recruitment arrangements were altered part way through the study. Several meetings were convened with the Fiscal's Office in Edinburgh to discuss the options available. The option of meeting with informants directly after their meeting with the Fiscal in order to explain the study face to face was rejected out of hand by the Fiscals on ethical grounds. The sending of further letters to non-responders was also rejected as informants might have viewed this as harassment and complained accordingly.

A compromise was finally agreed. This involved contacting as many non-responders as possible by telephone. This amendment involved reviewing files of all the deceased whose informants had not responded to the initial letter. The Fiscals' Office laid down specific criteria regarding telephone contact. Should the informant be available on the telephone, one phone call only was permitted. The researchers were allowed to explain who they were and ask the informant if they wished information on the study. If this was refused, the conversation was to terminate and no persuasion of any sort was to be applied by the researcher.

This amendment was cleared by the Crown Office, the Procurator Fiscal's department in Edinburgh, the Office of the Chief Scientist at St. Andrew's House and the local ethics committee.

#### **4.6.2 RECRUITMENT OF CONTROLS**

Living controls were recruited from the in-patient and out-patient population of the Royal Edinburgh Hospital and St. John's Hospital in West Lothian and from local general practitioners in Edinburgh and the surrounding areas. Controls were matched on a case by case basis in terms of age (within 5 years ), sex and mental disorder.

The Schedule for Affective Disorders and Schizophrenia - Lifetime Version (Spitzer & Endicott, 1978) was used to determine psychiatric morbidity. Further assessments of the severity of illness were made from the internal ratings of symptom severity in the SADS-L, duration of last episode and total lifetime duration of illness. Corroboration was on the basis of assessment of hospital and general practitioner records of the case. Following this, the health care professionals concerned with the case were approached for a living control matched for age, sex and diagnosis. In other words, those cases whose last contact was with a hospital were matched with a control currently being seen by hospital services and those cases who were managed by primary care were matched with a control currently being seen by primary care.

Further, in all circumstances an attempt was made to obtain a living control from the same hospital or primary care team as the deceased. Thus, the level (community or hospital) of care was matched for as closely as possible. When no suitable control could be obtained, either through reluctance on the part of the professionals or of the controls approached, then the nearest available match, in terms of diagnosis and level of service provision, was obtained.

This was done via other consultants for those being seen by hospital services or other general practitioners for those being seen in the community.

On identification of a living control, matched as closely as possible in terms of diagnosis, history and level of health care provision, consent from the doctor concerned was obtained to approach their patient. In respect of controls, the consent of the control to approach their own chosen confidant was obtained.

Identical psychological autopsy schedules were used for the cases and the controls including SADS-L, the Personality Assessment Schedule (Tyrer et al, 1988) to establish personality traits in cases and controls and the Life Events Scale (Paykel, 1971) to assess the contribution of adverse life events.

The protocol involved interviewing the informant named by the Procurator Fiscal or by the individual control and was conducted by JC, a psychiatrist. For the majority (40 cases) this took place in the homes of informants. The remainder of informants (5 cases) preferred the Department of Psychiatry. The interviews took, on average, 3-4 hours. Informants were next of kin or spouses for all cases and controls

## 4.7 STATISTICAL ANALYSES

### 4.7 INFORMANTS

#### 4.7.1 Psychological Assessment Schedule

##### Cases

For the deceased, the primary source of information was the person identified as closest to them by the Procurator Fiscal or Senior Depute. All informants for cases were spouses / partners or first degree relatives. Corroborating evidence was taken from hospital and GP case notes and police reports where available.

##### Controls

In the living controls, the same procedure was employed, but the primary informant was the confidant selected by the controls themselves. As with the cases, all informants for controls were spouses / partners and or first degree relatives. General practitioner notes and hospital case records, where relevant, were examined in the same way as in the cases.

## **4.8 STATISTICAL ANALYSES**

### **4.8.1 Psychological Autopsy Schedule**

Data were analysed on SPSS software (version 6.1 ) for Macintosh and the SAS programme. The former was used due to ease of access and ease of data exploration and manipulation. The latter was chosen for access to conditional logistic regression analysis.

It was assumed that the data was distributed in a non-normal fashion.

The grounds for this assumption were as follows :-

- 1) suicide is a rare event
- 2) the sample size was small
- 3) the majority of the variables which resulted from the psychological autopsy were not continuous in form, but either dichotomised or ordinal.

With respect to the above, non-parametric statistics were employed.

#### **Initial analysis**

In order to establish whether there were any clear, overall differences between cases and controls initial non-parametric tests were carried out on the paired data.

The Wilcoxon test was employed for ordinal data and the Sign test for dichotomised variables.

On the basis of these results unadjusted odds ratios, with 95% confidence intervals were calculated for matched pairs.

The unadjusted odds ratios (ORs) were calculated according to the method described by Morris and Gardner (1989) for matched pairs.

An approximate estimate of the relative risk of the disease or outcome (in this case suicide) with exposure is given by the odds ratio (OR) calculated as

$$OR = s/t$$

where **s** = the number of discordant pairs where only the case is exposed and **t** = number of discordant pairs where only the control is exposed.

An exact 100 (1- alpha) % confidence interval (CI) for the population value of the OR was determined as follows:-

first determining the confidence interval for **s** conditional on the sum of the numbers of "discordant pairs" **s + t**. The **s** can be considered as a binomial variable with sample sizes **s + t** and proportion **s/s + t**.

the confidence interval for the population value of the binomial proportion was obtained from the Geigy Scientific Tables (Lentner, 1984) giving an exact binomial proportion confidence interval.

The confidence interval is denoted :-

$A_{Lower}$  to  $A_{Upper}$  ; the  $100(1 - \alpha)\%$  CI for the population value or the odds ratio is given by:

$$A_{Lower} / 1-A_{Lower}, \quad \text{to} \quad A_{Upper} / 1-A_{Upper}.$$

Given that cases and controls were matched for sex, age and mental disorder the method of Conditional Logistic Regression was chosen as the most appropriate statistical method to model the data.

Logistic regression is a mathematical modelling procedure that can be used to describe the relationship of several predictor variables

e.g.  $X_1, X_2, \dots, X_n$

to a dichotomous dependent or outcome variable  $Y$ .

In the present study the outcome or dependent variable is suicide, in other words whether a case or a control. The outcome is a proportion and is assumed to have a binomial distribution with a mean that is predicted by the explanatory variables.

Ordinary regression models can result in the prediction of proportions less than 0 or greater than 1.

Two Maximum Likelihood procedures are available for estimation, the unconditional and conditional procedures.

Unconditional likelihood refers to the unconditional probability of obtaining the set of data being considered. A conditional likelihood gives the conditional probability of obtaining the data actually observed, given all possible permutations of the data.

The main reason for using conditional likelihood measures in this analysis is that unconditional methods can lead to profoundly biased estimates when the amount of data available is small (or the number of parameters to be estimated reflects a fair proportion of the data).

The design of this study is a 1 : 1 matched pair case and each stratum contains only two subjects " the conditional approach is best restricted to the matched case-control study design, or to similar situations involving very fine stratification where it is essential to avoid biased estimates of the relative risk " (Breslow and Day, 1980).

The unconditional analysis of matched data results in an estimate of the odds ratio which is the square of the correct, conditional analysis: e.g. odds ratio of 2 will be estimated as 4 and 1/2 as 1/4.



## **Preparation of data for Conditional Logistic Regression**

Where possible all variables extracted from the psychological autopsy were coded as 0 or 1. For example, some questions were phrased in such a way as to obtain a measure of severity e.g. number of episodes of in patient admissions. If there was also a dichotomised yes/no answer to such a question e.g. had the individual ever been an in patient, then this was included in the model building. All major areas of questioning in the psychological autopsy could be so dichotomised for this purpose.

The data were managed in an SPSS format required for matched pair analysis i.e. where each row contained for case/control pair.

In order to proceed to conditional logistic regression all psychological autopsy variables (coded 0, 1) subtracted controls from cases. This produced a continuously distributed variable of the form (-1, 0, 1).

Clearly, not all the variables contained within the psychological autopsy were independent of each other. Certain variables were highly related such as number of admissions to poisons units and number of deliberate self harm attempts. To ensure that such highly correlated variables were not entered into the same conditional logistic regression model, Spearmans rank correlations were calculated prior to modelling of the data. Correlation coefficients  $r \geq 0.8$  were viewed as signifying high correlation. As indicated, clinical judgement was also used to exclude variables which were naturally highly related.

The SAS PROC LOGISTIC function was used to carry out conditional logistic regression.

Five preliminary models were constructed based on variables which reached high conventional levels of significance in the univariate analyses along with those variables which were logically related.

The five models were run as follows:-

no selection procedure; forward; backward; and stepwise selection.

The aim was to ascertain which variables reached a level of significance ( $p=0.05$ ) and which might therefore be entered into the final model of variables which might predict suicide.

#### MODEL 1

any history of deliberate self harm; any financial problems or involvement with the police (a grouped variable listed as "problems") ; any episodes of psychiatric in-patient care; in a secure or lasting relationship; ever voted; separated from either parent before the age of seventeen; any physical illness.

From the above models the following variables reached a significance

#### MODEL 2

any deliberate self harm; any psychiatric in patient episodes; any treatment ; any in patient treatment; chronic pain.

health; any psychiatric or psychological treatments; whether in employment.

### MODEL 3

any criminal record; in a secure and lasting relationship; any attendance at the children's panel; any debts; whether employed at present; whether in a close circle of friends and whether practising religion.

### MODEL 4

Any history of deliberate self harm; ever been a psychiatric in-patient; ever voted; separated from parents before age of 17; criminal record; in a secure and lasting relationship; in debt; whether employed at present.

### MODEL 5

Any history of deliberate self harm; ever been a psychiatric in-patient; received any treatment ; criminal record; in a secure and lasting relationship; in debt; whether in employment.

### FINAL MODEL

From the above models the following variables reached a significance level of 0.05 (two-tailed) or less and were entered into the final model:- a history of deliberate self harm; financial problems or involvement with the police; the presence of a secure and lasting relationship; physical ill health; any psychiatric or psychological treatments; whether in employment.

The adjusted odds ratios (ORs) were also calculated according to the method described by Morris and Gardner for matched pairs (Morris & Gardner, 1989) with the confidence interval for the population value of the binomial proportion again being obtained from the Geigy Scientific Tables (Lentner, 1984).

#### **4.8.2 Life Events Scale**

Statistical analysis of cases and controls was performed on SPSS software (version 6.1). For specific life events the criteria for inclusion in the analysis were as follows:- events of moderate to severe negative impact i.e scores of 1-3 with 1 being severe negative impact; clearly or probably independent of the mental disorder i.e scores of 1-2 with 1 being clearly independent of the mental disorder; occurred 6 months or less before death (interview for controls). The number and severity of chronic ongoing difficulties (ongoing for at least 12 months) were also analysed. The Wilcoxon test was used to analyse the overall differences in acute life events and on-going difficulties between cases and controls and for analysis of the differences between individual life event categories. Odds ratios (OR) and 95% confidence intervals (95% CI) were calculated for statistically significant differences (see above)

The Mann-Whitney U test and chi-square test were used to ascertain associations between sex and life events, and between age and life events.

The Kruskal-Wallis test was employed to determine correlation between diagnostic and life event categories.

#### **4.8.3 Personality Assessment Schedule**

As described, an adaptation of the Personality Assessment Schedule (PAS, Tyrer et al, 1988) was used. The scoring system for this adapted scale was as follows:-

"Never" = 0; "Rarely" = 1; "Sometimes" = 2; "Always" = 3.

Only those scores of 2 and above were included in the analysis.

Simple univariate analysis, employing the Wilcoxon test, was used to assess differences between cases and controls.

Key four trait scores were calculated according the schedule (see appendix) these being :-

Sociopathic; Passive - Dependent; Anankastic; Schizoid.

The nine trait subtypes were also calculated according to the schedule :-

Explosive, Sensitive - Aggressive, Histrionic, Asthenic, Anxious, Paranoid, Hypochondriacal, Dysthymic, Avoidant.

## **4.9 RESULTS : PART 1**

With regard to the first two aims of the study :-

### **4.9.1 AIM 1 THE RECRUITMENT OF CASES**

Cases were recruited for the study. The majority were male (71%) and the mean age was 35 (sd 13.6). In terms of illness, the majority (49%) suffered from a form of affective disorder the next commonest diagnostic grouping being alcohol/substance abuse (see table 12)

### **4.9.2 AIM 2 THE MATCHING OF LIVING CONTROLS**

Cases and controls were well matched in terms of age and sex and mental disorder.

**AGE** :-Cases had a mean age of 35 (sd 13.6) and controls a mean age of 38 (sd13.8) (NSD)

**SEX** :- 71% of cases and 70% of controls were male (NSD)

**MENTAL DISORDER** :- case were well matched with controls in terms of diagnostic categories ( table 12). Cases with comorbid diagnosis were matched with controls with similar principal and comorbid diagnoses.

	CASES (n= 45)	CONTROLS (n= 40)	No. (%)	No. (%)
Age (years)				
< 40	10	10	22.2	25.0
40-49	10	10	22.2	25.0
50-59	10	10	22.2	25.0
60-69	10	10	22.2	25.0
≥ 70	5	10	11.1	25.0
Sex				
Male	10	10	22.2	25.0
Female	10	10	22.2	25.0
Marital status				
Married	10	10	22.2	25.0
Unmarried	10	10	22.2	25.0
Occupation				
Professional	10	10	22.2	25.0
Non-professional	10	10	22.2	25.0
Smoking status				
Smoker	10	10	22.2	25.0
Non-smoker	10	10	22.2	25.0
Alcohol consumption				
Alcohol consumption	10	10	22.2	25.0
No alcohol consumption	10	10	22.2	25.0
Family history of disease				
Family history of disease	10	10	22.2	25.0
No family history of disease	10	10	22.2	25.0

no diagnosis	1 (2.2)	no diagnosis	1 (2.5)
depression due to medical condition	2 (4.4)	depression due to medical condition	2 (5)
paranoid schizophrenia	2 (4.4)	paranoid schizophrenia	3 (7.5)
schizophreniform disorder	1 (2.2)	schizoaffective disorder	1 (2.5)
schizoaffective disorder	1 (2.2)	bipolar 1	4 (10)
bipolar 1	1 (2.2)	major depression (moderate)	6 (15)
major depression (moderate)	8 (17.8)	major depression (psychotic)	1 (2.5)
puerperal depression	2 (4.4)	puerperal depression	2 (5)
bipolar depression	1 (2.2)	bipolar depression	3 (7.5)
generalised anxiety disorder (GAD)	1 (2.2)	obsessive compulsive disorder	1 (2.5)
obsessive compulsive disorder	1 (2.2)	alcohol dependence	5 (12.5)
dysthymia	1 (2.2)	polysubstance abuse	2 (5)
personality disorder NOS	1 (2.2)	unknown substance abuse	2 (5)
alcohol dependence	5 (11.1)	adjustment reaction with depression	1 (2.5)
polysubstance abuse	4 (8.9)	depression NOS	4 (10)
alcohol abuse	1 (2.2)	paranoid illness with depression	1 (2.5)
unknown substance abuse	4 (8.9)	polysubstance abuse with depression	1 (2.5)
adjustment reaction with depression	2 (4.4)		
depression NOS	5 (11.1)		
GAD with sexual abuse	1 (2.2)		

TABLE 12 : Diagnoses in cases and controls

## **5.1 RESULTS PART 2**

### **5.1.1 Recruitment**

We were made aware of 98 cases of suicide and undetermined death by the Procurators Fiscal. We recruited forty five cases of which 32 were recorded as suicide and 13 as undetermined death by the Crown Office. Forty one affirmative responses were received by letter and participated. Twenty two refusals by letter were received. Access to a further 35 cases was obtained through telephoning relatives as agreed in the amendment described above. Of these 4 agreed and participated. We, thus, attempted to contact 98 and 45 participated, an uptake of 46%. In respect of controls, forty out of a total of 110 people approached were recruited, a response rate of 36%. (see figs 1 & 2).

Attempts were made to gather as much information as possible on those cases who did not participate using the files made available to the research team by the Fiscal's Office.

Of the 53 cases whose informants did not participate, information regarding age, sex and cause of death was available on 41, of whom 30 were male and 11 were female. Twenty eight were recorded as suicide and thirteen as undetermined. Of the 28 suicides, 23 (82%) were male and 6 (46%) were female. The mean age of the suicides was 36 years (males) and 64 years (females) and of the undetermined was 39 years (males) and 41 years (females).



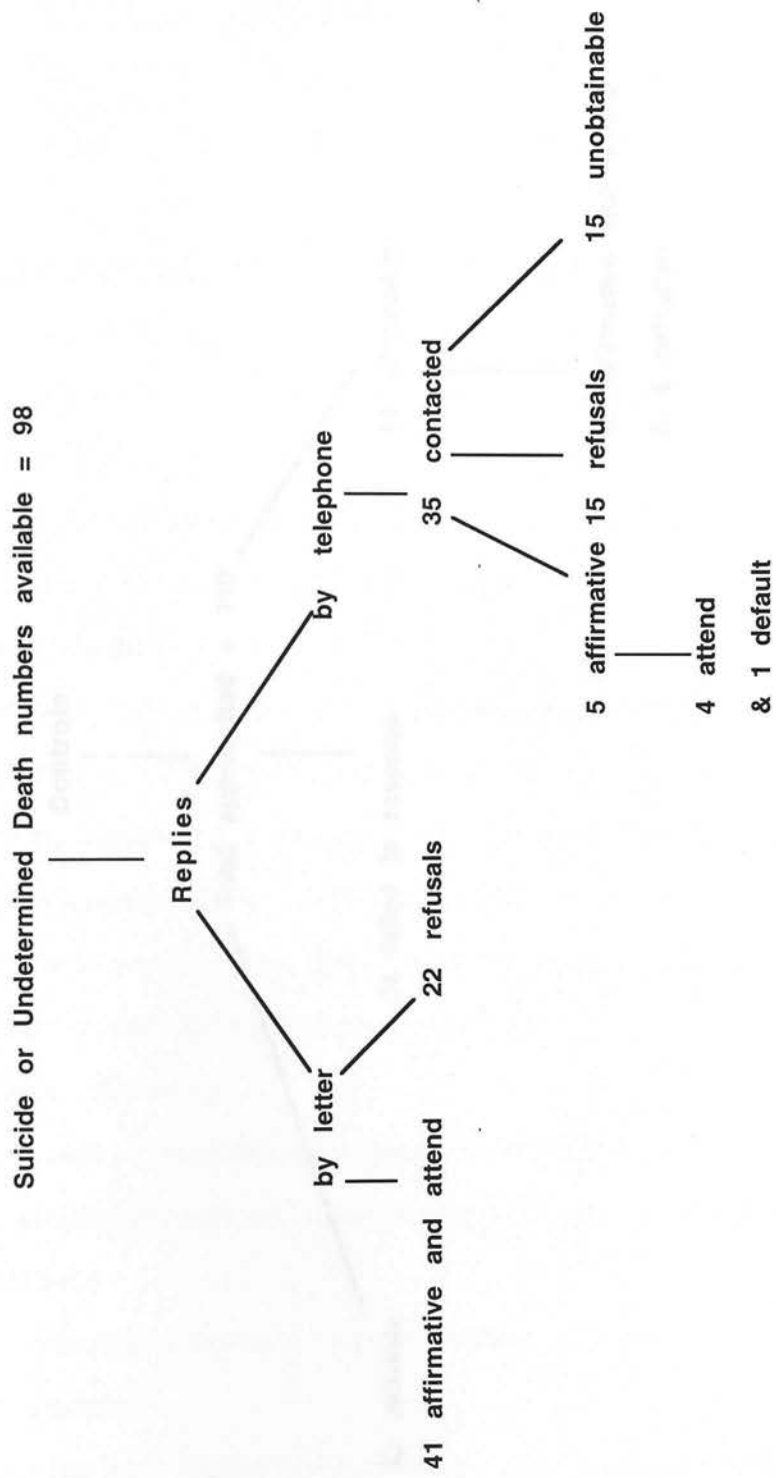


FIGURE 1: Recruitment of cases

With regard to the first aim we noted, the recruitment of controls was

To answer the first question regarding the recruitment of controls, the following variables were analysed: age, sex, ethnicity, education, and employment status.

All but one of the cases received a diagnosis. It is clear that the disorder is the main diagnostic category.

Comorbidity

For the purpose of the study, comorbidity was defined as the presence of another disorder with a DSM-5 Axis I or Axis II condition.

The total level of comorbidity among cases and controls was 4.1 (cases: 5 (11%) cases and 3 (12.5%) controls). These cases and controls were matched to each other. The comorbidity related to major depressive disorder was also matched.

Illness severity

Measures of the severity of illness used related to:

- 1) symptomatology and clinical ratings of severity, as determined by the SADSA;
- 2) measures of the total duration of illness and the length of the last episode.

It is clear from table 13 that significant differences between cases and controls in terms of severity of symptoms, duration of illness or length of last episode can be discerned.

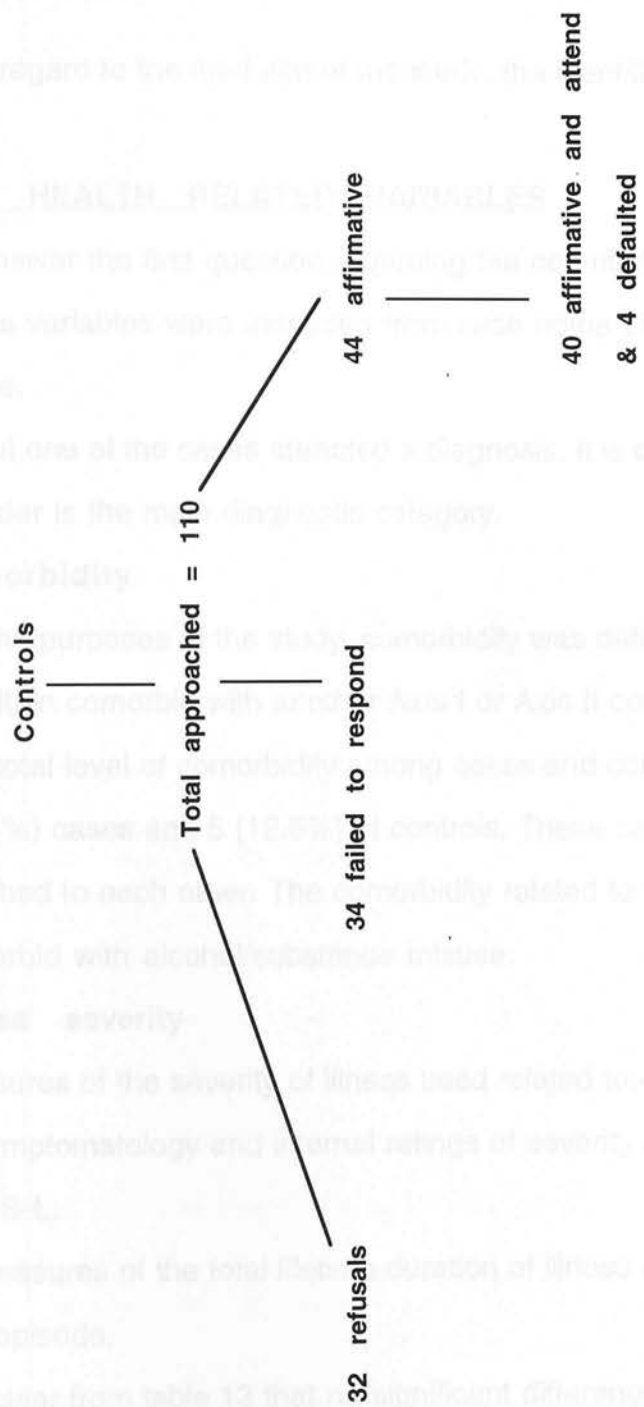


FIGURE 2 : Recruitment of controls

## **6.1 RESULTS PART 3**

With regard to the third aim of the study, the identification of antecedents

### **6.1.1 HEALTH RELATED VARIABLES**

To answer the first question regarding the contribution of health variables illness variables were extracted from case notes and sources described above.

All but one of the cases attracted a diagnosis. It is clear that affective disorder is the main diagnostic category.

#### **Comorbidity**

For the purposes of the study, comorbidity was defined as an Axis I condition comorbid with another Axis I or Axis II condition.

The total level of comorbidity among cases and controls was as follows:- 5 (11%) cases and 5 (12.5%) of controls. These cases and controls were matched to each other. The comorbidity related to major depression. comorbid with alcohol/substance misuse.

#### **Illness severity**

Measures of the severity of illness used related to:-

- 1) symptomatology and internal ratings of severity as determined by the SADS-L.
- 2) measures of the total lifetime duration of illness and the length of the last episode.

It is clear from table 13 that no significant differences between cases and controls in terms of severity of symptoms, duration of illness or length of last episode can be discerned.

CASES

CONTROLS

	N	Mean	Median (IQ range)	N	Mean	Median (IQ range)	P value
mania score	45	2	1 (1 - 1)	40	3	1 (1 - 2)	0.1
depression score	45	11	12 (8 - 15)	40	12	14 (12 - 15)	0.7
alcohol misuse criteria	44	3	1 (1 - 4)	40	2	1 (1 - 4)	0.3
schizoaffective score	45	1	1 (1 - 1)	40	1	1 (1 - 1)	0.1
schizophrenia score	45	1	1 (1 - 1)	40	1	1 (1 - 1)	1.0
non-affective/ non-organic score	45	2	1 (1 - 1)	40	1	1 (1 - 1)	0.2
drug misuse score	45	2	1 (1 - 2)	40	2	1 (1 - 2)	0.9
length of episode (months)	33	25	5 (2 - 14)	35	20	6 (3.5 - 12)	0.9
lifetime length of illness (years)	29	6	2 (0.75 - 8)	37	8	4 (1.5 - 12)	0.1

TABLE 13 : Measures of severity

The onset of illness in cases and controls was not necessarily equivalent and rather than using an equivalent "suicide date" as a cut-off for the controls, total lifetime duration of contact with services was calculated. Total lifetime duration of psychiatric contact was calculated from date of first psychiatric contact till death (for cases) or time of interview (for controls). General practitioner contact was measured by the total number of GP visits in the preceding 3 years. Corroboration was sought from hospital and general practitioner case records where available.

In respect of total lifetime duration of psychiatric contact, there were no significant differences between cases and controls ( $p=0.2$ ) and no differences in the measures of general practitioner contact in the last three years ( $p=0.6$ )

There was no significant difference in the length of time since last GP appointment ( $p=0.6$ ).

### **6.1.2 Results of univariate analysis**

Table 14 contains the results from the univariate analyses of clinical indices. The number of in patient episodes was significantly less in cases than controls. Cases showed a non-significant tendency toward fewer out-patient appointments than controls. Cases were registered with a general practitioner for less time than controls.

The cases showed a non-significant tendency toward a higher sum total of deliberate self harm episodes. There were no significant differences between cases and controls in terms of lifetime length of illness or length of last episode of illness.

### **6.1.3 Tests of strength of association**

Table 15 contains odds ratios and confidence intervals for dichotomised variables. Physical ill health was significantly more common in cases than controls with an odds ratio (OR) of 6.5 (95% CI 1.5-59). Physical ill health was determined both from the informant version and case records.

With regard to the question of whether there had ever been an episode of deliberate self harm, cases had such an episode significantly more often than controls (OR 3.2, 95% CI 1.3-11.2).

Cases received significantly less treatment of any sort compared to controls (OR 0.1, 95% CI 0.02-0.6). Cases were in patients less often than controls (OR 0.3, 95% CI 0.06-0.8).

	CASES				CONTROLS			
	N	Mean	Median (IQ range)	N	Mean	Median (IQ range)	P value	
Number of deliberate self harm attempts	45	1	1 (0 - 1)	40	1	0 (0 - 1)	0.06	
Number of psychiatric out patient appointments	39	8	2 (0 - 9)	23	17	10 (3 - 23)	0.07	
Number of psychiatric in patient episodes	41	1	0 (0 - 1)	35	5	1 (0 - 4)	0.001	
Length of time registered with GP (years)	37	12	7.9 (3.4 - 18.2)	32	16	14.5 (6.2 - 24.5)	0.02	
Length of illness (years)	29	6	2 (0.75 - 8)	37	8	4 (1.5 - 12)	0.1	
Length of episode (months)	33	25	5 (2 - 14)	35	20	6 (3.5 - 12)	0.9	

TABLE 14 : Univariate analyses of clinical indices

VARIABLE	ODDSRATIO (95%CI)	P VALUE
physically unwell	6.5 (1.5-59)	p= 0.007 cases > controls
any history of DSH	3.2 (1.3-11.2)	p= 0.02 cases > controls
any psychiatric treatment	0.1 (0.02-0.6)	p= 0.006 cases < controls
in patient psychiatric treatment	0.3 (0.06- 0.8)	p= 0.02 cases < controls
contact with psychiatrist	not calculable	p= 0.02 cases < controls
consulted GP with psychiatric/psychological problems	not calculable	p= 0.001 cases < controls
criminal record	4.3 (1.2-24)	p= 0.02 cases > controls
problems	2.5 (0.7-11)	p= 0.02 cases > controls
voting	0.2 (0.03-0.6)	p= 0.001 cases < controls

TABLE 15 : Odds ratios from analysis of dichotomised variables



Contact with a psychiatrist was significantly less common in cases than controls ( $p=0.02$ ). Consulting their GP for psychological problems was significantly less common in cases than controls ( $p=0.001$ ), even though there were no differences in the number of GP visits in the preceding 3 years.

Odds ratios were not calculable for the latter two variables, as one of the discordant variables was zero.

Forensic history, as reflected in criminal record, was more common in cases than controls (OR 4.3, 95% CI 1.2-24). Involvement with the police and financial problems were cited more as difficulties by the informants of cases than controls (OR 2.5, 95% CI 0.7-11).

Cases exercised their vote less than controls (OR 0.2, 95% CI 0.03-0.6).

In the final model the following risk factors for suicide were identified:

1) a history of delirious or psychotic states (OR 1.8, 95% CI 1.0-3.2)

2) physical ill health (OR 1.5, 95% CI 1.0-2.2)

3) recalling any previous suicide attempt (OR 0.01, 95% CI 0.001-0.2)

Table 16

#### **6.1.4 Multivariate analysis**

Spearman's rank correlations were conducted on all variables in order to exclude from the model those variables which were highly correlated.

From the initial five models, the following variables reached significance levels of  $p= 0.05$  (two-tailed) or less and were entered into the final model. Non selection, forward, backward and stepwise procedures were used for all models.

A history of deliberate self-harm, financial difficulties and police involvement, the presence of a secure and lasting relationship, physical ill health, any psychiatric or psychological treatment and whether the subject was employed.

In the final model the following were independently associated with suicide or undetermined death :-

- 1) a history of deliberate self harm, adjusted odds ratio of 4.1 (95%CI, 1.0-16.0)
- 2) physical ill health, adjusted odds ratio of 7.8 (95% CI, 1.3-47.6)
- 3) receiving any treatment from mental health services, adjusted odds ratio of 0.01(95% CI, 0.008-0.8)

Table 16

## 5.2 Non significant results

Engagement is placed on a scale whereby 1 = 'strongly engaged' and 5 = 'not engaged at all'. The results of the conditional logistic regression analysis are presented in Table 16.

RISK OR PROTECTIVE FACTOR	ADJUSTED ODDS RATIO (95%CI)
HISTORY OF DELIBERATE SELF HARM	4.1 (1.0 - 16.0)
PHYSICAL ILL HEALTH	7.8 (1.3 - 47.6)
ANY TREATMENT BY MENTAL HEALTH SERVICES	0.01 (0.008 - 0.8)

## Social Isolation

Everyday social contact with neighbours, services and family members is an important factor in the recovery of people with mental health problems. The results of the conditional logistic regression analysis are presented in Table 16.

**TABLE 16 : Results of conditional logistic regression analysis**

## **6.2 Non significant results**

Emphasis is placed on certain variables in the literature over and above mental disorder, physical ill health and a previous history of deliberate self harm. These include:- early parental loss, social isolation, unemployment or major financial problems and communication of suicidal intent.

In the present study, these variables were also examined statistically using the methods described above.

### **Early parental loss**

There was no evidence of early parental loss being more prevalent among cases than controls ( $p=0.2$ ).

### **Social isolation**

Everyday social contacts with neighbours, acquaintances and those with shared interests were not significantly different between cases and controls ( $p=0.3$ ). There was no significant difference between cases and controls in the extent of (i.e numbers of) overall social networks, contact with and closeness of friends and confidants ( $p=0.6$ ).

## 5.3 IDENTIFICATION OF ANTICIPANTS

### **Unemployment / major financial difficulties**

There were no significant differences in overall employment patterns between cases and controls ( $p=0.7$ ).

Although subjective financial worry was included among problems which were significantly more concerning to cases than controls (see above), there was no evidence of severe or enduring financial difficulty being more common in cases than controls ( $p= 0.1$ )

### **Communication of suicidal intent**

There were no significant differences in statements of intent to others ( $p=1.0$ ).

## **6.3 IDENTIFICATION OF ANTECEDENTS**

### **6.3.1 LIFE EVENTS VARIABLES**

The second question posed in the search for discriminating antecedents related to life events as precipitant stressors.

Only those events resulting in a negative impact, independent of mental disorder and occurring in the previous six months were included in the analysis. Ongoing difficulties and their negative impact were also examined.

### **6.3.2 Results (table 17)**

The cases had one or more life event to a significantly greater extent than did controls ( $p=0.006$ ). To explore the potential confound of one life event causing several others, events which were potentially related were removed. On removing finance, work, family and marital, cases still had significantly more life events ( $p=0.01$ ).

On removing the above along with "other life events" not specified in the schedule, the same situation obtained with cases having more life events than controls ( $p=0.02$ ). Life events in the areas of health and family life contributed significantly to the difference between cases and controls.

Analysis of individual life event categories showed that adverse interpersonal events within the family (  $p= 0.01$ ) with an odds ratio (OR) of 9.0 (95%CI, 1.3-399) and adverse health -related events ( $p= 0.04$ ) with an odds ratio of 5.0 (955 CI, 1.1-47 ) were significantly more common in cases than in controls.

No other individual life event differences were significant between groups indicating that interpersonal/family and health-related adversities are the main variables contributing to the differences between cases and controls.

On testing the relationship between individual life events and sex, age and whether in a secure relationship, the following were found to be significant :- female controls had more health related stressors than did male controls ( $p= 0.02$  chi square with Fisher's exact); more cases who were in a secure relationship experienced loss than cases who were in no such relationship ( $p= 0.007$  chi square with Fisher's exact )

Assessment of correlation between life events and diagnosis by Kruskal-Wallis revealed no significant correlation.

There were no significant differences between cases and controls in respect of ongoing difficulties or their severity.

Table 17 analysis of life events data

EVENTS		CASES				CONTROLS				p value
	Total No.events in category	Event frequency(%) (0, 1, >1)	Median (IQ range)	Total No.events in category	Event frequency(%) (0, 1, >1)	Median (IQ range)	Odds ratio (95% CI)			
WORK	7	(88.9, 8.9, 2.2)	0 (0-0)	6	(87.5, 10, 2.5)	0 (0-0)		NSD		
EDUCATION	2	(96.6, 4.4, 0)	0 (0-0)	0	(100)	0 (0-0)		NSD		
FINANCIAL	3	(93.3, 6.7, 0)	0 (0-0)	5	(87.5, 12.5, 0)	0 (0-0)		NSD		
HEALTH	13	(73.3, 24.4, 2.2)	0 (0-1)	3	(92.5, 7.5, 0)	0 (0-0)	5 (1.1-47.0)	0.04		
BEREAVEMENT	5	( 88.9, 11.1, 0)	0 (0-0)	5	(87.5, 121.5, 0)	0 (0-0)		NSD		
MIGRATION	3	(93.3, 6.7, 0)	0 (0-0)	5	(90, 10, 0)	0 (0-0)		NSD		
COURTSHIP/ COHABITATION	5	(88.9, 11.1, 0)	0 (0-0)	1	(97.5, 2.5, 0)	0 (0-0)		NSD		
LEGAL	4	(93.3, 4.4, 2.2)	0 (0-0)	3	(92.5, 7.5, 0)	0 (0-0)		NSD		
FAMILY/ SOCIAL	21	(71.1, 13.3, 15.5)	0 (0-1)	3	(95, 2.5, 2.5)	0 (0-0)	9 (1.3-399)	0.01		
MARITAL	1	(97.8, 2.2, 0)	0 (0-0)	2	(95, 2.5, 2.5)	0 (0-0)		NSD		
OTHER	1	(86.7, 11.1, 2.2)	0 (0-0)	2	(95, 5, 0)	0 (0-0)		NSD		
TOTAL	71	(37.8, 17.8, 44.1)	1 (0-3)	35	(50, 30, 20)	0.5 (0-1)	1.6 (0.6-4.5)	0.02		



## **6.4 IDENTIFICATION OF ANTECEDENTS**

### **6.4.1 PERSONALITY VARIABLES**

The third question regarding possible antecedents related to the role of individual personality variables. The approach adopted in this study used a dimensional rather than a categorical construct. Key trait scores for each of the four major personality types were calculated. The key trait scores for the nine subcategories of personality type were also calculated.

### **6.4.2 Results**

Two main trait categories, anankastic and schizoid were significantly different between cases and controls. Two subcategories, hypochondriacal and avoidant, were significantly different between cases and controls, but this was not unexpected as these are subtypes of the main categories:- hypochondriacal group being subtypes of the anankastic group and the avoidant, subgroups of the schizoid group.

#### *Major personality types*

Cases were significantly less anankastic than controls (2 tailed  $p = 0.01$ ) and cases were less schizoid than controls (2 tailed  $p = 0.05$ ).

#### *Personality subcategories*

Cases were less hypochondriacal (2 tailed  $p = 0.03$ ) and less avoidant (2 tailed  $p = 0.04$ ) than controls

## **7.1 DISCUSSION**

### **7.1.1 THE MAIN FINDINGS**

The main findings of the study are as follows:-

the primary health care antecedents which increase the risk of suicide or undetermined death in those with a mental disorder are :-

- 1) a previous history of deliberate self harm
- 2) physical ill health

Both these fit well with the existing literature

However, the principal finding in this part of the study was that, although, cases and controls suffered from mental disorders which did not differ in any meaningful way in terms of severity, lifetime or episode duration of illness, controls were receiving more care of whatever kind.

With respect to adverse life events, the cases had one or more life event to a significantly greater extent than did controls. Adversity in the areas of health and interpersonal events within the family contributed significantly to the difference between cases and controls. These areas, therefore, appear to exert a deleterious influence on those with mental disorder.

## 7.2. METHODOLOGICAL LIMITATIONS

With respect to personality traits, two main trait categories, anankastic and schizoid were significantly different between cases and controls. Two subcategories, hypochondriacal and avoidant, were also significantly different between cases and controls. Cases were significantly less anankastic and less schizoid than controls. Cases were less hypochondriacal and less avoidant than controls.

The two subcategories are subsumed within the two main categories. These are positive findings with regard to controls and not cases. From these results there appear to be no significant personality traits which contribute to the risk of suicide in these cases.

## **7.2 METHODOLOGICAL LIMITATIONS**

### **7.2.1 Recruitment**

One limitation is the small sample size. Initial expectations of recruitment were not fulfilled. On the basis of Scandinavian work in this area, it had been anticipated that there would be a take up rate of around 80-90% (Beskow et al, 1990). Two main problem areas in recruitment of cases were encountered

1) Access was possible only to those cases on which the fiscals/deputes provided information. Whereas the senior members of the Fiscal Service were successfully engaged, the rapid changeover of junior staff, with whom there were direct day-to-day dealings, resulted in a less effective implementation of the study protocol. Some stated that, in certain cases, they did not feel it appropriate to hand the information letter to the relatives. Others, despite reassurances to the contrary, took the view that if there was evidence that the death appeared to be accidental or undetermined, then the case was not appropriate for the study.

2) An obvious question, raised during the design of the study, was whether relatives in the aftermath of a bereavement would feel able to participate. Previous studies contacted relatives through personal visits to their home without prior notice ( Bagley et al, 1976; Barraclough et al, 1974; Teoh, 1974). However, the propriety of conducting research in this manner was questioned.

More recent studies have used an introductory letter (with or without a preceding telephone call) as the preferred method of contact. It has the advantage of allowing the investigators to evaluate and respond to survivors' reactions. Beskow and colleagues (1990) found a low rejection rate with this technique in Sweden. This was not the case in Scotland.

With respect to controls, a problem not fully anticipated was the reluctance of some doctors to provide patients to be contacted as potential controls.

This reluctance was particularly evident among the general practitioners approached. The most commonly voiced concern was the ethical propriety of the study.

Examples of this included an unwillingness to have patients with mental disorder contacted in the context of a study on suicide. There was a sense in which the airing of such a subject might in some way upset or de-stabilise their patients. Another area of concern raised by doctors was that of patient confidentiality. Some doctors expressed grave doubts about providing diagnostic information regarding their patients' mental health, especially in the area of substance misuse. This was despite strong reassurances on the anonymity of participants and the fact that the research team comprised medical practitioners who are bound by the same ethical code as themselves.

While it had been expected that there would be unwillingness on the part of potential controls, the unease of doctors about having issues regarding suicide raised, however peripherally, with their patients had not been envisaged and not to the degree to which it subsequently occurred.

It is not possible to determine why some people responded and others did not. Response bias may have reduced the representativeness of both cases and controls

However, attempts were made to gain some information regarding those cases who did not participate. Clearly, it was not possible to approach these people directly as they had either refused directly or failed to respond. Any direct approach would have been in breach of the agreed ethical guidelines of the study.

That said, it was possible to obtain information regarding the age, sex and Crown Office determination of cause of death of the non-participants. As can be seen from the results listed above, the non-participant cases were in the same sex ratio and age groups as the those of participants. Further, the diagnostic groupings of the deceased followed the same pattern as that indicated by the great majority of previous research i.e. with affective disorders at the top of the list followed by alcohol/substance abuse then psychotic conditions.

The above give some cause for reassurance regarding the representativeness of the sample despite the low participation rate.

The small sample size led to a small number in each category of suicide and undetermined death (32 and 13 respectively) and no meaningful differentiation could be made between these two groups.

The small sample size overall raises the possibility of type II error.

### **7.2.2. Limitations of the psychological autopsy method**

As discussed in the Systematic Review, there are certain limitations to the technique itself. The psychological autopsy technique itself relies on information from secondary sources. For both cases and controls, this can lead to recall bias especially given the specific emotional responses to suicide deaths. Selective remembering or forgetting may well be present. The concept of "seeking after meaning" has been discussed, especially in the area of life events research as it pertains to suicide (Heikkinen et al , 1993). Unreliability of informants with regard to aspects of the deceased's behaviour is also a bias which may hinder the interpretation of personality data.

Notwithstanding these limitations, there is a remarkable consistency in the results obtained across a wide range of ages and demographic samples and this is borne out by the findings of the systematic review above.

## **8.1 HEALTH RELATED VARIABLES**

### **8.1.1 PHYSICAL ILL HEALTH :-**

A consistently cited finding in the literature is the positive association between suicide and physical ill health (e.g. Allebeck & Bollund, 1991; Milne et al, 1994).

Certain illnesses are highlighted more than others e.g. chronic neurological conditions such as multiple sclerosis (Feinstein, 1997) those conditions involving great pain and / or disability or poor prognosis e.g. neoplastic conditions. This was confirmed in the present study.

The physical illnesses in the cases and controls included cancer, multiple sclerosis as well as other chronic, but non-life threatening complaints.

In addition to the presence of serious or chronic physical illness, the adverse side effects of psychotropic medication have been linked to suicide. In particular, agitation and akathisia secondary to drugs have been reported as contributing to suicide risk (Van Putten & Marder, 1987). The side effects themselves can contribute directly, but it should be noted that adverse side effects can result in non-compliance and in the patient ceasing to take the medication. Ultimately, this can lead to the scenario where the patient finds the medication intolerable and stops taking it leading to an under- treated or untreated mental disorder which in itself carries a significant suicide risk.



In this present study the side effects of antipsychotic medication were mentioned specifically by the cases' informants. Specifically, informants described on-going dystonias and akathisia as especially distressing to the suicide victim.

Although not statistically significant, there was evidence in the case notes and anecdotally from informants in this study, that mental disorder in the physically ill, though recognised, was under treated.

Specific examples include a 42 year old male who had suffered from multiple sclerosis for the previous 10 years. He also suffered from comorbid major depression. His informant (his wife) felt that no concerted effort was made to treat his depression. Although he was receiving antidepressant treatment, she felt this was of little therapeutic benefit.

Similarly, a 55 year old male suffering from cancer received little or no psychiatric input, despite concerns voiced by his wife that he was becoming progressively more depressed. Both informants expressed the view that because their husbands were diagnosed with chronic or terminal conditions, their doctors tended to regard their low mood as "understandable".

Both informants felt that the depression was being treated less vigorously than had their husbands been physically well.

### **8.1.2 DELIBERATE SELF HARM**

One of the more robust findings in suicide research is that a history of deliberate self harm increases the risk of suicide (Hawton & Fagg, 1988; De Moore & Robertson, 1996). A reported estimate is that of risk of subsequent suicide increasing 100-fold compared to general population following a deliberate self harm attempt (Hawton & Fagg, 1988).

Harris and Barraclough (1997) estimated the standardised mortality ratio for completed suicides who had attempted suicide to be approximately 38 : higher than that attributed to specific psychiatric diagnoses. Between ten and fifteen percent of those in contact with health services as a result of previous deliberate self harm eventually die by suicide (Culberg et al, 1988; Maris, 1992). Isometsa and Lonnqvist (1998), as part of a large psychological autopsy, found that 56% of suicide victims died at their first suicide attempt. The majority were males (62%). This finding reinforces the importance of early recognition of suicide risk, especially among men. That study also found that more women made a non fatal attempt in the final year, emphasising the importance of deliberate self harm history among women.

The results of the present study demonstrate again the importance of a history of deliberate self harm. Given the fact that mental disorder is controlled for, the recognition of a history of deliberate self harm may allow a differentiation of those with mental disorder at higher risk from those at lower risk. The highlighting of such a history has an important role in the prevention of suicide in this vulnerable group.

Confounds which might explain these findings relate to the methodological limitations described above, particularly the possibility of selection bias.

However, these findings regarding physical ill health and history of deliberate self harm fit very well with the great majority of previous research in this area. This is reassuring and suggests that neither the cases nor the controls appear to be from an unusual sample.

### **8.1.3 PROTECTIVE NATURE OF CARE BY MENTAL HEALTH SERVICES**

Levels of care and engagement were higher in the cases than the controls despite a lack of difference in symptom severity, length of episode, total duration of illness or total duration of contact with mental health services.

Confounds which would explain the finding that controls had more care than cases must be considered.

Controls were introduced to the study by their doctors in a way that, of course, the cases were not. The possibility is raised that the controls may have been selected patients and received more attention than the cases. There is also the possibility that because mental disorder was being controlled for, then the controls were recruited from a sample already in care and that, therefore, the finding of controls receiving more care would be expected.

However, as can be seen from the recruitment data, a large number of potential controls refused to participate. This indicates that it would have been difficult for consultants and general practitioners to volunteer patients who were more cooperative with their health care, or who were in some way more highly favoured.

The high refusal rate allows a degree of randomisation in that following one refusal the next available closest match to the deceased was approached and, as far as possible, from the same geographical area.

Controls did not differ in any statistically significant way from cases in terms of total duration of psychiatric contact, severity of illness, lifetime length of illness or length of last episode.

The similarities in terms of illness variables are striking and , overall, there is no indication that controls were highly selected.

This finding requires replication in a larger sample. If replicated, the fact that cases receive less effective care than controls, in whatever way, is cause for both reassurance and concern . It is reassuring in that it has been suggested that the role of doctors and other health workers is debatable in reducing the suicide rate (Wilkinson, 1994). This finding appears to challenge that view and is supported by the clear evidence of psychological distress and mental disorder manifested by those who commit suicide in the period leading up to their deaths. The finding gives cause for concern in that services may not be targeting the right people or those at highest risk . If suicide rates continue to increase despite more effective recognition of mental disorder (Hawton ,1998) then there are several possible explanations for this finding:- that those with mental disorder, especially when complicated by comorbid substance abuse, are simply not engaging with available services; that there are insufficient services for all or subgroups of those suffering from mental disorder; that the services are not doing enough to engage with these patients.



## **9.1 SOCIO - DEMOGRAPHIC VARIABLES**

### **9.1.1 Unemployment**

Factors such as unemployment and social isolation are recognised as significant in the backgrounds of suicide victims (Platt 1984, Kreitman et al 1991). Indeed, a recent record linkage study found the association between suicide and unemployment or lack of job security to be more significant than with other socioeconomic measures (Lewis and Sloggett, 1998).

It is not clear whether these increase suicide risk inherently or whether they lead to, result in or exacerbate risk factors such as mental disorder. There were no significant differences between cases and controls with regard to these, which may be accounted for by the small sample size. Therefore no comment can be made on the impact of unemployment on this sample.

### **9.1.2 Durkheim revisited?**

Factors which suggest separation from society as a whole e.g. criminal record and not exercising their vote were significantly more common in cases than controls. However, these did not remain significant following conditional logistic regression analysis. Nevertheless, these variables are reminiscent of Durkheim's concept of egoistical suicide i.e. separation from social grouping and loss of belonging to a community and, to a lesser extent, of anomie i.e loss of socially normative values (Durkheim, 1951).

Spencer (1997) recently reviewed Durkheim's concepts in light of the contemporary situation.

With respect to egoistical suicide, Durkheim stated that in an efficient society the individual was safeguarded by family, religious and similar group systems. The key to this was preeminence of the group over the individual. Durkheim maintained that the integration of an individual into his or her society was protective against self-destruction. He described the sharing of social and individual values as "the collective sentiment". Masterton and Mander (1990) illustrated this phenomenon in their demonstration of a reduction in emergency psychiatric presentations to hospitals during and after the soccer World Cup finals. These decreases were found in those with known mental disorder as well as the population as a whole.

In the present study, the failure to exercise the vote could be seen as a manifestation of lack of "collective sentiment". In a liberal democracy such as the United Kingdom, failure to participate in the democratic process could be indicative of a more profound lack of social integration.

Anomie is derived from the Greek for "lawless". Durkheim believed that one of the functions of society was to limit human individual impulse. While egoism relates to how individuals are attached to society, anomie refers to how society regulates them. Anomic suicide results from "deregulation". An example of this is seen in the work of Clayer (1991) who examined suicide among the Aboriginal people of South Australia.



Clayer concluded that an Aboriginal person, especially if he has spent a considerable period in jail, might see suicide as a logical release from a system and lifestyle in which he has no place and over which he has no control.

In the present study, criminal record could be seen as a demonstration of anomie or "deregulation".

Both phenomena have been quoted by Victor Frankl (1971) as part of his thesis that Western man's primary goal is a "will to meaning". The failure of collective sentiment and the increase in deregulation have been seen as culprits by Spencer and previously by Von Andics (1947) for the increase in aggressive behaviour, addiction behaviour and self destructive behaviours.

These hypotheses echo in the present day experience of health care workers. The findings of the present study relating to the failure to exercise the vote and criminal record, while not remaining significant after controlling for confounders, do relate to these sociological hypotheses.

## **10.1. ADVERSE LIFE EVENTS**

Cases had significantly more adverse life events than the controls and the individual event categories accounting for these were family interpersonal relationships and physical health. These adversities were independent of the illness and occurred within the six months prior to death.

Health-related stressors were commoner in female controls than in males but no sex difference was found among cases. Cases who were in a secure relationship experienced more losses than those who were in no such relationship.

## **10.2. Potential confounds**

Retrospective examination of completed suicide relies on secondary sources of information which introduces bias into data collection. Recall bias may be due to lack of knowledge on the part of the informant as well as the informant seeking to explain the death. Similarly, the possibility of rater bias cannot be excluded. However, the same protocol was used in both cases and controls, and the controls had no direct input to the interview which may balance the risk of bias between the two groups. While the prominence of stressors in the minds of close relatives (Heikkinen et al, 1994) may lead to over-emphasis of their significance, it may also result in greater accuracy in reporting them.

Mental disorder was controlled for and only those life events which were clearly independent to the mental disorder were included. The stress of the above life events can, therefore, be regarded as compounding the suicide risk attached to mental disorder itself.

### **10.3. Relationship of these findings to previous literature**

The literature to date demonstrates age related variation in life events and precipitants. Those who commit suicide at a young age experience interpersonal loss/ conflict, economic difficulties, legal problems and moving base; those in middle age, economic problems and employment difficulties and those in the elderly age group are frequently burdened by physical illness (Rich et al, 1991).

Such age stratification was not evident in this study. This may be a reflection of sample size. Similarly, sex differences in respect of life events have been reported with economic difficulties being prominent among males who commit suicide (Rich et al, 1991). The present study found physical health-related stressors more commonly among female controls than male controls but no sex differentiation among the cases.

Associations between specific diagnostic categories and life events have been reported e.g alcoholism/substance misuse relating to higher levels of interpersonal loss (Rich et al, 1988) and affective illness to physical ill health (Rich et al, 1986). Recently discharged psychiatric patients appear to be especially vulnerable to adverse life events increasing their risk of suicide in the post-discharge period.

This has been related to the feature of “defencelessness” , the characteristic incapacity to respond to self-devaluing experiences (Pokorny and Kaplan, 1976)

The present study found no significant association between diagnostic category and the nature or severity of life events. There are, however, limits to the associations between diagnoses and life events described in the literature due to heterogeneity in the methodologies used. The relationship between mental disorder and stressors is complex and in order to ascertain the relative risks associated with each, it is important to establish the independence of the stressors from the mental disorder.

The importance of chronic or ongoing difficulty has been identified in previous studies and integrating analysis of such difficulties with impaired social support has been called for (Hiekkinen et al 1994). This study detected no significant differences in either the number or severity of ongoing difficulties between cases and controls.

It is clear from earlier studies that life events in general are common before suicide. These studies also indicate that life events do not necessarily exist as separate categories but in the context of the dimensions of the psychological and social environment of the individual. What is less clear is the differentiation of critical from non-critical life events.

The above analysis of the psychological autopsy findings showed that significantly more cases than controls had a criminal record, police involvement , financial difficulties and failed to exercise the vote .

These results can be seen as a reflection of chronic difficulties and of a breakdown in external social support. The finding in this study of more cases in a secure relationship experiencing losses indicates adversity can occur within an apparently supportive context and may reflect internal breakdown of social support.

It is clear from this study that recent adverse life events contribute to the risk of suicide even when age, sex and mental disorder are controlled for. Previous findings identifying interpersonal and physical health stressors are confirmed. Further research is required to investigate the interactions between social support , acute and chronic adversity. Designs should take into account the nature of the social support and the existence of internal as well as external breakdown in such support.

## **11.1 PERSONALITY TRAITS**

The principal findings from analysis of the personality traits of cases and controls were as follows:- within the major personality traits, cases were significantly less anankastic and less schizoid than controls. Within the personality subcategories, cases were less hypochondriacal and less avoidant than controls. The hypochondriacal category is a subdivision of the anankastic group and the avoidant, a subdivision of the schizoid group.

## **11.2 Potential confounds**

The limitations which apply to the above data, similarly apply to this personality data. Differences in personality traits may be obscured by a variety of factors in this study. The relatively small numbers may mitigate against picking up more subtle personality differences. The reliance on secondary sources can result in recall bias on the part of the informant (described above) and related to this recall bias, an understandable reluctance on the part of informants to emphasise the more negative aspects of the subject's personality. However, the same protocol was used in both cases and controls, and the controls had no direct input to the interview which may balance the risk of bias between the two groups. Also, there is evidence that informants with the closest relationship to the subjects i.e. spouses and cohabitees, give more accurate accounts of personality status than those of a more distant relationship (Brothwell et al, 1992).

### **11.3 Relationship of these findings to previous literature**

Reports of personality disorders and pathological personality traits are common in suicidal patients and suggest an association between suicidal behaviour and affective instability in personality disorders. However, there are problems in interpreting the literature in this area, including heterogeneity in the methodologies employed and the fact that many studies focus on suicide attempters rather than completers. Whether the findings from attempters can be generalised to completers is not clear.

As far as specific instruments are concerned, a review of the suicide research done with the Minnesota Multiphasic personality Inventory (MMPI) (Butcher et al, 1989) concluded that no MMPI item, scale, or profile configuration was been found to differentiate consistently between suicidal and nonsuicidal individuals (Eyman and Kohn Eyman, 1991). Studies using the Eysenck Personality Inventory (1968) show relatively consistent results with suicidal individuals scoring higher on Neuroticism and Psychoticism scales and either lower Extroversion or higher Introversion scores (Colson , 1972; Irfani, 1978; Mehryar et al, 1977; Pallis and Jenkins, 1977).

With regard to the findings of the present study, there were no striking differences, overall, between cases and controls. Such differences as there were highlighted controls as being more schizoid and anankastic in terms of personality traits .

Specific subcategories of these traits were also significantly different between cases and controls, with controls being more avoidant (schizoid trait) and more hypochondriacal (anankastic trait).

No analyses of correlations or associations with other variables were carried out as these were not part of the a priori hypotheses in this study. Personality variables were measured using an adapted version of a larger scale. Excessive or multiple analyses of the data could run the risk of making spurious associations.

In respect of the main psychological autopsy findings, one of the principal findings from the multivariate analysis of the study was that the controls had received greater care than the cases.

Were the controls in some way more appealing or more readily engaged patients? One of the possible methods of addressing this issue is to examine the personality traits in the cases and controls. Using the adapted PAS, the results do not indicate that the personality traits of cases and controls were significantly different.

Possible interpretations of the findings of the present study are that schizoid and avoidant traits could be seen as mitigating against greater engagement either with or by the health services. Yet controls received more care. The anankastic and hypochondriacal traits could indicate, instead, that greater attendance or contact with services could result. A further interpretation is that these traits, in some way, confer protection from suicide.



Nevertheless, these must remain speculations as there are insufficient data to explore these aspects of personality in any greater detail.

It is reasonable to conclude from the data available that neither traits can be regarded as leading to the controls being more favoured or more appealing with respect to engagement with services.

Furthermore, the differences described above were small and the overall result of this analysis of the personality findings is that they did not appear to discriminate between those with mental disorder who are at higher risk of suicide from those at lesser risk.

However, the numbers in this study were relatively small leading to the possibility of a type II error. Larger numbers may well have found that personality variables do discriminate higher from lower risk groups.

## **12 CONCLUSIONS**

### **12.1 Conclusions from the case control psychological autopsy study**

Suicide has been subject to detailed research over the latter part of the twentieth century. Despite this suicide has become an ever-increasing problem worldwide. Recognition of this trend by national and international agencies has led to health care professionals being challenged with reducing the suicide rate.

The research findings in the suicide literature have been the result of several avenues of research methodology. The aims have been to pinpoint factors which lead a person to counter the instinct for self - preservation and take their own life.

What has emerged to date is a complex picture of several pathways leading to an end-point. There have been attempts to clarify the confusion by means of different models with the aim of differentiating more important from less important risk factors.

The methodologies employed have been of variable usefulness. The psychological autopsy technique has certain distinct benefits over less direct methods of assessment. Not least among these is the collation of as much of the available data as possible on the deceased in a structured fashion. An additional benefit of this is that valid comparisons can then be made with control populations.

However, the systematic review of the literature on psychological autopsy studies of suicide carried out revealed a paucity of controlled studies. Properly controlled studies are of paramount importance if accurate discrimination between risk factors is to be arrived at. The systematic review did include all available controlled studies that could be accessed. These along with the case series studies confirmed that mental disorder and comorbidity were key risk factors for suicide.

The ultimate aim of this study was to attempt to uncover factors which would discriminate between those patients with a mental disorder who were at higher risk of suicide from those at lesser risk.

A history of deliberate self harm and physical ill health are well established in the literature as risk factors for suicide, particularly among those with mental disorder. The results of this study concur with these findings.

Similarly, the role of adverse life events has been well documented and the cases of suicide in this study did indeed have an excess of adverse interpersonal and health related events in comparison to the living controls.

Whereas there are associations with suicidal behaviour and specific personality disorders, the contribution of individual personality variables has proved more difficult to assess. Much of the work in this area has examined living participants' suicidal behaviour rather than retrospectively assessing personality traits in the deceased with appropriate control groups.

This study revealed no personality traits specific to the suicide victims, rather the controls scored higher on two main traits, schizoid and anankastic. While the confounders operating in this study are accepted, personality traits do not appear to usefully discriminate high and low suicide risk among this population of those with mental disorder.

## **12.2 The role of medical practitioners**

It is logical to assume that engagement in care of those with mental disorder is necessary before any of these factors can be assessed. The findings of this study suggest important messages for medical practitioners whose role is to provide care for patients who may be at risk of suicide.

Clearly, doctors need not question the value of their role in suicide prevention since patients who did not die were receiving more care than those whose lives were ended in spite of their being no evidence of differences in illness between the two groups studied.

The goal now must surely be to focus that role toward engaging alienated or "difficult" patients. It is recognised that doctors can be alienated from those who exhibit challenging behaviour for whatever reason and from those who consistently relapse despite medical efforts (Morgan, 1994). Mental disorder itself can be difficult to treat and, although there was not a high level of comorbidity in the sample studied, it is possible that comorbid conditions especially alcohol and substance misuse can exacerbate this difficulty.

Attenuating the risk of suicide and, ultimately, reducing the suicide rate will require further research. However, from a health care perspective attaining these goals through improved clinical practice must involve a focus on communication between care providers and engagement of alienated and difficult patients with mental disorder, as well as those at high risk through physical illness and previous deliberate self harm.

The training of doctors and other health care professionals affords an opportunity to introduce issues surrounding the "difficult" patient and for emphasising the potential lethality of mental disorders. The Academy of Medical Royal Colleges has introduced continuing professional development (CPD) as a key element of maintaining and updating the knowledge of qualified practitioners. Mental disorders and the care of those suffering from them cross several medical disciplines and such innovations as CPD allow difficulties in treatment as well as advances to be made widely known to practitioners.

However, none of this can help in real terms if patients do not make themselves known to their doctor. The little time per patient available to general practitioners is now notorious; averages of five to seven minutes frequently being quoted. Anecdotally, the setting up of specific clinics to deal with emotional and psychological issues has been piloted by some practices to good effect in that patients describe feeling less intimidated by a time factor.

The admission, at least overnight, of those who deliberately self harm may provide a more efficient way of psychiatric screening of those who, by their very act of deliberate self harm, are at increased risk of suicide. Inevitably, changes of this sort require resources. This may involve extra personnel, extra clinics and extra hospital beds. This brings the issue of suicide back into the arena of public policy and National Health Service funding.

While accepting the key roles of mental disorder and health care provision, not all those who kill themselves are mentally disordered or required specifically medical interventions. Spencer (1997) highlights the role played by poverty, social isolation and family breakdown. He accepts the role of mental disorder but calls for appropriate agencies to be set up to deal with factors of socio-political origin. Spencer argues that no matter what the cause of an act of deliberate self harm, once a patient is admitted they are a doctor's responsibility. He also calls for a revision of the medico-legal constraints resulting from this as inappropriate emphasis is placed upon the extent to which doctors can help if no mental disorder is present. Clearly, there is no miracle cure for chronic unemployment, poverty or social isolation, but indicating their role in suicide to policy makers is an important first step. Practical initiatives such as providing relationship counselling might help in both interpersonal strife and in preventing family breakdown. Building and improving a sense of community could provide more hopeful options, especially for disaffected young males whose sense of identity and role is lost and lived through alcohol and substance misuse.

Medical practitioners cannot instigate these changes alone, but the vast majority work with the community in one form or another and they can thus highlight societal difficulties to policy makers.

### **12.3 Future directions**

In order to confirm the findings of the present study, replication with larger samples and case control design should be undertaken. However, this area of research is a difficult and sensitive one.

The present study encountered particular difficulties in relation to recruitment. This was partly due to the fact that the Scottish Procurator Fiscal jurisdiction employs a confidential enquiry. Concerns were expressed by Fiscals with respect to the maintenance of confidentiality. Another difficulty related to the recruitment of controls due to the reluctance of some medical practitioners to provide mentally disordered patients as living controls. Again, this reluctance was due partially to concerns about confidentiality and partially due to a fear of discussing the area of suicide might in some way upset or de-stabilise their patients. In order for health professionals to meet the targets for the reduction of the suicide rate and to address some of the questions highlighted in this present study, research strategies require to be planned. As part of these plans, the difficult issue of recruitment problems such as those encountered in this study should be addressed.



In conclusion, it is perhaps appropriate to refer to one of the pioneers of the psychological autopsy, Robert E. Litman. There have been many reviews of the future direction and goals of suicide prevention, but Litman focuses on prevention through treatment. In a recent review of the progress and direction of suicide research, he describes the contemporary American situation. The National Institute of Mental Health Catchment Area of Studies (Reiger et al , 1984) produced mental health care statistics for a sample year :- one million seven hundred thousand psychiatric hospitalisations. Approximately twenty three million people were treated as psychiatric out - patients for a total of three hundred and twenty five million out - patient appointments. A substantial proportion of these exhibited suicidal ideation to varying degrees. A worryingly high number of potentially suicidal people who were not in any form of treatment was detected through nationwide screening programmes such as the National Depression Screening Day (NIH, 1994).

Litman (1995) has called for new treatment modalities which can be adapted in such a way as to provide service to large numbers of people exhibiting suicidal ideation. Moreover, to provide services and treatments which are acceptable to people and are flexible enough to meet the needs of a wide variety of people.

Improved training in diagnosis and treatment of mental disorder is an obvious way forward, but in addition improved communication between professionals to ensure safe and effective follow up and tracking of patients.

This present psychological autopsy highlighted less care among suicide victims compared to matched controls who were no different in terms of illness parameters. It is, therefore, suggested that improved engagement with and by patients should be a focus of prevention strategies.

How can this be achieved ?

In the United Kingdom, the aims of the Defeat Depression Campaign of the Royal College of Psychiatrists in association with the Royal College of General Practitioners included:-

the reduction of stigma associated with depression, education of the public and encouragement of earlier treatment-seeking .

The Campaign operated from 1991 until 1996.

The continuing stigma associated with psychiatric disorder is widely recognised, and was recognised as a major problem in a study of members of the Manic Depression Fellowship (Hill et al, 1996).

A survey of public attitudes at the beginning, middle and end of the Campaign found significant positive changes regarding attitudes to depression (Paykel et al, 1998). Throughout the Campaign, attitudes to depression and to treatment by counselling were favourable, but antidepressants were regarded as addictive and less effective.

The overall impression of the survey was that a positive attitude change was achieved during the Campaign, but that improvement was required in certain areas especially the views held on antidepressants.

Despite this hopeful start, it cannot be underestimated that one of the most potentially dangerous aspects of stigma is that of discouraging people from coming forward and engaging in care.

Read and Baker (1996) illustrated this in a survey of 778 members of Mindlink who reported the following in relation to their mental illness:-

- 1) 47% had been abused or harassed in public: with physical assault in 14%
- 2) 34% had been sacked or forced to resign from employment
- 3) 26% had moved home because of harassment.

As mentioned above, engagement is a two way process involving the doctor and the patient. Dislike of psychiatric patients, or those with predominantly emotional complaints, is not new. Sivakumar et al (1986) reported that 28% of medical students (n=88) found psychiatric patients "not easy to like". On qualifying as doctors this figure rose to 56%.

The perceived stigma of psychiatric assessment and treatment results in patients rejecting engagement e.g. Ben Noun (1996) in a study of 57 patients referred to a psychiatrist, 82% refused referral citing stigma as the reason. Pang et al (1996) have emphasised the high level of out-patient drop-out rates.

Following on from the Defeat Depression Campaign, the Royal College of Psychiatrists has instituted an anti-stigma campaign - "Every Family in the Land " which aims to change the perception of mental disorders and of those who suffer from them.

Presently, delivery of care can be seen as somewhat chaotic to the vulnerable patient. Lack of continuity of care can occur when a patient moves between different doctors, other therapists and from hospital to community care. Medication regimes can change from one practitioner to another and appropriate monitoring can be lost.

Recent United Kingdom Government initiatives such as the Care Programme Approach and supervision registers were intended to improve the follow up care of discharged psychiatric patients. Although there is no hard data, as yet, on the effects of such initiatives on the suicide rates, the technique of systematic assessment of suicide risk and provision of effective continuous care after discharge make clinical sense.

The other major area of practical concern is that surrounding the service provided to those who harm themselves. The services currently on offer vary widely in quality throughout the UK and existing Department of Health guidelines are widely ignored (Hawton & James, 1995).

Although there is substantial evidence supporting an association between previous deliberate self harm and subsequent suicide, the problem remains of what intervention should be targeted at this group. Lewis et al (1997) have estimated that a randomised controlled trial to investigate this question would require approximately 20 000 participants ( assuming a 25% reduction in suicide rates and 80% power, 5% significance).

Other non-medical therapeutic provisions such as recovery groups, counselling groups as well as agencies which assist with employment, finance and housing are often scarce and can be difficult to coordinate. This lack of coordination between agencies is a possible explanation for some patients feeling unwanted or rejected and it is these patients who drop out of engagement.

Therefore, in addition to establishing more effective treatments, the delivery of these regimens must be reviewed and improved on where necessary if health services are to be effective in reducing the rate of suicide in our population.

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TITLE  
YEAR  
AUTHORS  
REFERENCE

1987 CONTROL 1-713 140  
1987 SERIES 1-713 140

**APPENDIX A**

**Structured Pro Forma for Systematic Review**

**APPENDIX A**

**REPRESENTATIVENESS**

Time from death to interview specified	1-yes	2-no
Geographical area described	1-yes	2-no
Age population of subjects	1-yes	2-no
Gender population of subjects	1-yes	2-no
Education level of subjects	1-yes	2-no
Occupation of subjects	1-yes	2-no
Religion of subjects	1-yes	2-no
Marital status of subjects	1-yes	2-no
Health status of subjects	1-yes	2-no
Other factors	1-yes	2-no

ID TITLE  
YEAR  
AUTHORS  
REFERENCE

CASE CONTROL 1=YES 2=NO

CASE SERIES 1=YES 2=NO

### SAMPLING

Definition of case

Description of case

Ascertainment of case

1=consecutive  
2 =random  
3=convenience

### REPRESENTATIVENESS

Time from death to interview specified 1=yes 2=no

Geographical area described 1=yes 2=no

Total population of suicides 1=yes 2=no

Specified part of population 1=yes 2=no

If yes, what ?.....

Is specified population reported as a proportion of total suicide population? 1=yes 2=no

Is specified population reported as a proportion of that specified suicide population? 1=yes 2=no

Is psychiatric diagnosis an inclusion criterion ? 1=yes 2=no

All psychiatric diagnoses? 1=yes 2=no

Are there specific diagnoses examined ? 1=yes 2=no

If yes, what?.....



**AGE-SPECIFIC**

15-44	1=yes	2=no
45-64	1=yes	2=no
64 and above	1=yes	2=no

Comments.....

**FINAL ANALYSED SAMPLE**

Number	1=yes	2=no
Cases lost and why?	1=yes	2=no

**TECHNIQUE**

How was contact with informant made?

Primary informant	Number of informants per case/control	n=.....	
	First degree relative/ Next of kin	1=yes	2=no
	Other relative	1=yes	2=no
	Non-relative	1=yes	2=no
Scrutiny of medical sources			
	Primary care	1=yes	2=no
	Secondary care	1=yes	2=no

Scrutiny of medical records

Validated	Primary care	1=yes	2=no
Modified	Secondary care	1=yes	2=no

Retrospective diagnoses made

	1=yes	2=no
Lifetime diagnosis	1=yes	2=no
Episode diagnosis	1=yes	2=no

If yes, how?

Standardised operational criteria	1=yes	2=no
What ?.....	1=yes	2=no

Modified operational criteria	1=yes	2=no
What?.....	1=yes	2=no

Any definition	1=yes	2=no
What?.....	1=yes	2=no

Description of criteria

Measures of severity	1=yes	2=no
----------------------	-------	------

What?.....
------------

**Composition of questionnaire**

Validated schedule	1=yes	2=no
Modified schedule	1=yes	2=no
Individual schedule	1=yes	2=no

**Description of questionnaire**

.....

.....

**ANALYSIS**

Numbers analysed	n=.....
All accounted for?	1=yes      2=no
Cases lost?	1=yes      2=no
If yes, why?	.....

Appropriate statistical technique	1=yes      2=no
-----------------------------------	-----------------

**RESULTS**

**Description of categories examined**

.....	1=yes	2=no
.....	1=yes	2=no
.....	1=yes	2=no

## CONTROLS

## SAMPLING

## Definition of control

### Description of control

## Ascertainment of control

**1=consecutive**

**2 =random**

**3=convenience**

## REPRESENTATIVENESS

Geopgraphical area described

1=yes

2=no

## Total population

1=yes

2=no

Specified part of population

1=yes

2=no

If yes, what ?.....

Is specified population reported as a proportion of total population?

1=yes

**2=no**

Is specified population reported as a proportion of that specified population? 1=yes 2=

1=yes

2=no

### Is psychiatric diagnosis an inclusion criterion ?

1=yes

2=no

## All psychiatric diagnoses?

1=yes

2=no

### Are there specific diagnoses examined?

**1=yes**

**2=no**

If yes, what?.....

## AGE-SPECIFIC

15-44

**1=yes**

2=no

45-64

**1=yes**

2=no

**64 and above**

**1=yes**

**2=no**

Comments.....

**FINAL ANALYSED SAMPLE**

Number

Cases lost and why?

**TECHNIQUE**

How was contact with informant made?

Primary informant	Number of informants per case/control	n=.....	
	First degree relative/ Next of kin	1=yes	2=no
	Other relative	1=yes	2=no
	Non-relative	1=yes	2=no

Scrutiny of medical sources

Primary care	1=yes	2=no
Secondary care	1=yes	2=no

Scrutiny of medical records

Primary care	1=yes	2=no
Secondary care	1=yes	2=no

Retrospective diagnoses made

1=yes      2=no

Lifetime diagnosis

1=yes      2=no

Episode diagnosis

1=yes      2=no

If yes, how?

Standardised operational criteria      1=yes

What ?.....

Modified operational criteria      1=yes

What?.....

Any definition      1=yes

What?.....

Description of criteria

Measures of severity

1=yes      2=no

What?.....

Main findings

<u>Variables</u>	<u>Conclusions/Implications</u>
------------------	---------------------------------

## APPENDIX B

### Psychological Autopsy Schedule



# BIOGRAPHICAL INFORMATION

Case No <sup>1</sup> [ 0 ] <sup>2</sup> [ 1 ] <sup>3</sup> [ 1 ]  
Record No <sup>4</sup> [ 1 ] <sup>5</sup> [ 1 ]

Sex : 1. Female 2. Male <sup>6</sup> [ 1 ]  
Date of birth : <sup>7</sup> [ 1 ] <sup>8</sup> [ 1 ] <sup>9</sup> [ 1 ] <sup>10</sup> [ 1 ] <sup>11</sup> [ 1 ] <sup>12</sup> [ 1 ]  
Date of death : <sup>13</sup> [ 1 ] <sup>14</sup> [ 1 ] <sup>15</sup> [ 1 ] <sup>16</sup> [ 1 ] <sup>17</sup> [ 1 ] <sup>18</sup> [ 1 ]  
Age at death : (years) 4 <sup>19</sup> [ 1 ] <sup>20</sup> [ 1 ]  
Legal civil state at death : 1. Single <sup>21</sup> [ 1 ]  
2. Married  
3. Widowed  
4. Divorced  
5. Separated

(IF MARRIED/COHABITING)

Duration of marriage/cohabitation :

<sup>22</sup> [ 9 ] <sup>23</sup> [ 9 ] <sup>24</sup> [ 9 ] <sup>25</sup> [ 9 ]

\_\_\_\_\_ years \_\_\_\_\_ months

(If unmarried/not cohabiting, code 9999;  
If 6-11 months, code year boxes 00)

No. times married : \_\_\_\_\_ times (Never = 0)

<sup>26</sup> [ C ]

(IF DIVORCED/WIDOWED/SEPARATED)

Date of divorce/widowhood/separation

(If more than once, give most recent occasion)

Length of time between divorce/widowhood/  
separation and death

<sup>27</sup> [ 9 ] <sup>28</sup> [ 9 ] <sup>29</sup> [ 9 ] <sup>30</sup> [ 9 ] <sup>31</sup> [ 9 ] <sup>32</sup> [ 9 ]

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

(If never divorced/widowed/separated code 999999)

Cohabiting at death  
(living together as man and wife)

<sup>33</sup> [ 1 ]  
0 No  
1 Yes  
9 N/A

(If married N/A Code 9)

Was S cohabiting in year before death?

34  
0 No [C]  
1 Yes

(If yes)

Length of time between break-up of cohabitation  
and death :

\_\_\_\_\_ months \_\_\_\_\_ days (If N/A Code (9999))

35 36 37 38  
[9][9][9][9]

<sup>a</sup>  
Was S biological father/mother?  
<sub>^</sub>

39  
0 No [C]  
1 Yes  
8 N/K

- Code no. children (0 = none)

40  
[C]

Whereabouts of biological children

\_\_\_\_\_ (N) living with S at usual address

41  
[9]

\_\_\_\_\_ (N) living elsewhere

42  
[9]

If N/A Code 9

Amount of contact between S and biological children  
living outside household in 6 months before death  
(telephone or in person)

43  
[9]

1. Daily
2. Weekly
3. Monthly
4. Less than monthly
5. Never

If N/A Code 9

<sup>a</sup>  
Was S step-father/step-mother?  
<sub>^</sub>

44  
0 No [C]  
1 Yes  
8 N/K

- Code no. children (0 = none)

45  
[C]

Whereabouts of step-children :

\_\_\_\_\_ (N) living with S at usual address

46  
[9]

\_\_\_\_\_ (N) living elsewhere

47  
[9]

If N/A Code 9

Amount of contact between S and step-children living outside household in 6 months before death (telephone or in person)

48  
[ 9 ]

1. Daily
2. Weekly
3. Monthly
4. Less than monthly
5. Never

Who was living with S at the time of his death?

\*\*\* COMPLETE HOUSEHOLD COMPOSITION SHEET \*\*\*

(If S in institution, code as for usual household)

How long had S lived at this address? 49    50    51    52  
[ 4 ] [ 1 ] [ 0 ] [ 1 ]

\_\_\_\_\_ years \_\_\_\_\_ months

(If less than 6 months)

Who lived with S at his/her last address?

\*\*\* COMPLETE HOUSEHOLD COMPOSITION SHEET \*\*\*

Reasons for leaving last address :    0 = No  
(If within 12 months of suicide    1 = Yes  
act - otherwise N/A Code 9)

- Area		53 [ 7 ]
- Conditions		54 [ 9 ]
- Health		55 [ 9 ]
- Personal/Interpersonal		56 [ 9 ]
- Work		57 [ 9 ]
- Other (specify)		58 [ 9 ]

Tenure category of S's household :

1. Owner occupied
2. Tied accommodation
- \* 3. Council tenant
4. Private tenant
5. Housing association
6. Not a private household

		59 At death [ 3 ]
		60 Previously [ 3 ]

(If not private household)

1. Hotel
2. Lodgings
3. Prison
4. Hospital
5. Other (specify)

At death 61  
[9]  
62  
Previously [9]  
If N/A Code 9

(Give details if coded 3 or 4) :

No. addresses in past 5 years before death :  
(Including present one)

63 64  
[0] [1]

Where was S born?

65  
[1]

(Specify)

1. Edinburgh
2. Elsewhere in Scotland
3. England
4. Wales
5. N. Ireland
6. Elsewhere in Europe  
(Specify )
7. Elsewhere  
(Specify )

Where did S spend most of his/her childhood?

66  
[2]

1. Edinburgh
2. Elsewhere in Scotland
3. England
4. Wales
5. N. Ireland
6. Elsewhere in Europe  
(Specify )
7. Elsewhere  
(Specify )

Number of changes of address :

- 1 1
- 2 2
- 3 3
- 4 4
- 5 5 or more
- 8 N/K

67  
- aged 0-13 [1]  
68  
- aged 14-21 [0]  
69  
- aged 22-30 [0]  
70  
aged 31-45 [0]  
71  
- aged 46-64 [9] NA  
72  
- aged 65+ [9] NA

S's USUAL HOUSEHOLD/HOUSEHOLD AT TIME OF DEATH\*

Can you tell me who was living with S at the time of his/her death?  
(Include guests staying or expected to stay for at least one month)

Relationship rating

Ø1 = Wife Ø2 = Husband Ø3 = Cohabitee Ø4 = Son Ø5 = Daughter  
Ø6 = Mother Ø7 = Father Ø8 = Sister Ø9 = Brother 1Ø = Grandmother  
11 = Grandfather 12 = Mother-in-law 13 = Father-in-law 14 = Son-in-law  
15 = Daughter-in-law 16 = Fiancee 17 = Other relative 18 = Other person

Economic position

1. Employed 2. Unemployed 3. Government employment scheme  
4. Temporarily sick 5. Retired 6. Student 7. Permanently  
sick/disabled 8. Full time housewife/husband 9. Other

Name	Age	Relationship	Economic position
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]
	[ ][ ]	[ ][ ]	[ ]

\*CODE

1. Usual household and household at time of death
2. Usual household only
3. Household at time of death only

[/]

## S's USUAL HOUSEHOLD/HOUSEHOLD AT TIME OF DEATH\*

Can you tell me who was living with S at the time of his/her death?  
(Include guests staying or expected to stay for at least one month)

## Relationship rating

01 = Wife 02 = Husband 03 = Cohabitee 04 = Son 05 = Daughter  
06 = Mother 07 = Father 08 = Sister 09 = Brother 10 = Grandmother  
11 = Grandfather 12 = Mother-in-law 13 = Father-in-law 14 = Son-in-law  
15 = Daughter-in-law 16 = Fiancee 17 = Other relative 18 = Other person

### Economic position

1. Employed 2. Unemployed 3. Government employment scheme  
4. Temporarily sick 5. Retired 6. Student 7. Permanently  
sick/disabled 8. Full time housewife/husband 9. Other

[illegible]

## \*CODE

1. Usual household and household at time of death
2. Usual household only
3. Household at time of death only

Case No.

1 2  
[C] [C] [ ]

Record No.

4  
[ ] [ ]FAMILY

Is subject's mother alive?

: 0 No  
1 Yes  
8 N/KIf mother dead, what age was the subject  
at the time of death?If N/K code 88  
If N/A code 997  
[2] [ ]

If mother dead, how long ago was the death? :

If N/K code 8888  
If N/A code 99999 10 11  
[ / ] [ 4 ] [ ]

\_\_\_\_\_ years \_\_\_\_\_ months

Cause of mother's death suicide?  
(Possible - possible suicide death,  
e.g. Undetermined): 0 No  
1 Yes  
2 Possible  
8 N/K  
9 N/A

Is subject's father alive?

: 0 No  
1 Yes  
8 N/K  
9 N/AIf father dead, what age was the subject  
at the time of death?If N/K code 88  
If N/A code 9915  
[2] [ ]

\_\_\_\_\_ years

If father dead, how long ago was the death? :

If N/K code 8888  
If N/A code 999917 18 19  
[ / ] [ 3 ] [ ]

\_\_\_\_\_ years \_\_\_\_\_ months

Cause of father's death suicide?

: 0 No  
1 Yes  
2 Possibly  
8 N/K  
9 N/AWas there a period of separation from  
either mother or father before the age  
of 17 years?  
(permanent separation - i.e. as a result  
of divorce/desertion/separation): 0 No separation  
1 Separation from  
both parents  
2 Separation from  
mother only  
3 Separation from  
father only  
8 N/K

Age of subject at time of permanent separation?

\_\_\_\_\_ years

If N/K code 88  
If N/A code 99

Number of siblings?

\_\_\_\_\_ number

: (If N/K code 88)

Subject's position in order of siblings?

\_\_\_\_\_ subject's position

: (If N/K code 88)

Death of a sibling when subject was less than 17 years old?

☒ No death  
1 Death  
8 N/K  
9 N/A (i.e. no siblings)

Age of subject (less than 17 years) at time of siblings death?

\_\_\_\_\_ years

: (If N/K code 88)  
(If N/A code 99)

Was there a history of mental illness in the subject's mother?

☒ No  
1 Yes (possible)  
no medical treatment  
2 Yes (definite)  
no medical treatment  
3 GP treatment only  
4 Psychiatric outpatient  
5 Psychiatric inpatient  
8 N/K

Nature of illness in mother

See ICD-9 Classification

Specify : \_\_\_\_\_

N/K = Mental illness present,  
nature unknown: Code 88  
If no evidence of illness  
Code 000

Was there a history of mental illness in the subject's father?

☒ Yes (possible)  
no medical treatment  
2 Yes (definite)  
no medical treatment  
3 GP treatment only  
4 Psychiatric outpatient  
5 Psychiatric inpatient  
8 N/K



8

N/K = Mental illness present  
nature unknown: Code 8

If no evidence of illness  
Code 000

No

- 1 Yes (possible)  
no medical treatment
- 2 Yes (definite)  
no medical treatment
- 3 GP treatment only
- 4 Psychiatric outpatient
- 5 Psychiatric inpatient
- 8 N/K
- 9 N/A (no siblings)

2

N/K = Mental illness present,  
nature unknown: Code 88

If no evidence of illness  
Code 000

Was there a history of mental illness among the subject's grandparents, uncles, aunts or cousins?

- 0 No  
1 Yes (possible)  
no medical treatment  
2 Yes (definite)  
no medical treatment  
3 GP treatment only  
4 Psychiatric outpatient  
5 Psychiatric inpatient  
8 N/K

11

N/K = Mental illness present  
nature unknown: Code 8

If no evidence of illness  
Code 000

PREVIOUS PHYSICAL HEALTH (From Informant)

Do you (the informant) consider the subject was physically well at the time of his/her death?

- ☒ No  
☐ Yes  
☐ Unsure  
☐ N/K

6  
 [ 0 ]

Did the subject have any physical symptoms or illnesses for which he/she was currently receiving treatment from GP? (Treatment must include either medication or a further appointment - appointment may not have been made but is expected)

- ☒ No  
☐ Yes  
☐ Possible but unsure  
☐ N/K

7  
 [ 1 ]

Specify : \_\_\_\_\_

Did the subject have any physical symptoms or illnesses for which he/she was currently receiving treatment from hospital specialist? (Treatment must include either medication or a further appointment - appointment may not have been made but is expected)

- ☒ No  
☐ Yes  
☐ Possible but unsure  
☐ N/K

8  
 [ 2 ]

Specify : \_\_\_\_\_

Was the subject suffering from a serious illness or illnesses? (Serious illness defined as one which has required referral to a hospital specialist)

- ☒ No  
☐ Yes  
☐ Possible but unsure  
☐ N/K

9  
 [ 0 ]

Was the subject suffering from symptoms which markedly restricted his or her physical activity? (Physical activity significantly different from that possible 5 years previously)

- ☒ No  
☐ Yes  
☐ Possible but unsure  
☐ N/K

10  
 [ 1 ]

Was the subject suffering from a terminal illness? (Terminal illness - an illness from which no cure was expected and death was expected within 1 year)

- ☒ No  
☐ Yes  
☐ Possible but unsure  
☐ N/K

11  
 [ 0 ]

Specify : \_\_\_\_\_

Was the subject suffering from symptoms of chronic pain? (Chronic - symptoms lasting more than one year)

- ☒ No  
☐ Yes  
☐ Possible but unsure  
☐ N/K

12  
 [ 1 ]

Pain - a symptom for which the subject takes regular medication usually at least once a day on a regular basis)

Case No [ 1 ] [ 2 ] [ 3 ]

Record No [ ] [ 3 ]

PREVIOUS PSYCHIATRIC HISTORY (From Informant)

Had the subject ever consulted their GP with psychiatric or psychological problems?

(Code if GP thought so even if S consulted for physical problem)

- 13  
[ r ]
- : 0 No  
1 Had consulted in the past - not currently attending  
2 Currently attending with psychiatric problems  
3 Currently attending with "other" problems - psychiatric content unsure.  
4 No GP  
8 N/K  
9 N/A (No GP)

Duration between last appointment, for whatever reason, with GP and suicidal act?

\_\_\_\_\_ years \_\_\_\_\_ months  
\_\_\_\_\_ days

14 15 16 17 18 19  
[ ] [ ] [ ] [ ] [ ] [ ]  
(If N/K code 888888)  
(If N/A code 999999)

Had the subject had psychiatric contact in the past?

(Specify hospital(s) \_\_\_\_\_)  
( \_\_\_\_\_ )

- 20  
[ ]
- : 0 No  
1 Yes  
2 Possible  
8 N/K

Psychiatric treatment consisted of

- 21  
[ S ]
- : 0 None  
1 RPTC only  
2 RPTC + outpatient (REH)  
3 RPTC + inpatient (REH)  
4 Outpatient only (REH)  
5 Outpatient + inpatient (REH)  
6 Other general hospital following parasuicide  
7 Other psychiatric hospital. *with LBC*  
8 N/K

Was the subject receiving psychiatric treatment at the time of the suicidal act (i.e. future appointment arranged)?

(Specify hospital(s) \_\_\_\_\_)  
( \_\_\_\_\_ )

- 22  
[ / ]
- : 0 No  
1 Yes  
2 Possible  
8 N/K

Psychiatric treatment consisted of

- : 0 None  
1 Outpatient  
2 Inpatient  
8 N/K

23  
[1]

How many episodes of inpatient psychiatric treatment had there been?

- : (If none code 00)  
(If N/K code 88)

24 25  
[0][6]

\_\_\_\_\_ number

Duration between last appointment with psychiatrist and suicidal act?

- : 26 27 28 29 30 31  
[0][0][0][0][0][2]  
(If N/K code 888888)  
(If N/A code 999999)

\_\_\_\_\_ years \_\_\_\_\_ months

\_\_\_\_\_ days

Duration of psychiatric contact?  
(Date from first referral to time of death)

- : 32 33 34 35 36 37  
[0][3][0][0][0][0]  
(If N/K code 888888)  
(If N/A code 999999)

\_\_\_\_\_ years \_\_\_\_\_ months

\_\_\_\_\_ days

Treatment with antidepressants?

- : 0 No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

38  
[8]

*Anxiolytics*  
Treatment with ~~minor~~ tranquilizers?

- : 0 No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

39  
[8]

*antipsychotics*  
Treatment with ~~major~~ tranquilizers?  
(oral preparation only)

- : 0 No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

40  
[2]

*antipsychotics*  
Treatment with ~~major~~ tranquilizers?  
(IM depot injections)

- : 0 No treatment  
1 Treatment in the past  
now stopped  
2 Currently taking - at  
the time of death  
8 N/K

41  
[2]

Treatment with Lithium?

- : ☐ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

42  
[8]

Treatment with ECT?

- : ☐ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

43  
[0]

Treatment with hypnotics?

- : ☐ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

44  
[8]

Case No <sup>1</sup> [ 0 ] <sup>2</sup> [ 0 ] <sup>3</sup> [ 1 ]  
Record No <sup>4</sup> [ ] <sup>5</sup> [ 4 ]

SUICIDE (If death was "undetermined" or "accidental" record as if suicide)

Date of suicidal act

<sup>6</sup> [ 0 ] <sup>7</sup> [ 0 ] <sup>8</sup> [ 0 ] <sup>9</sup> [ 0 ] <sup>10</sup> [ 0 ] <sup>11</sup> [ 0 ]

Date of death

<sup>12</sup> [ 0 ] <sup>13</sup> [ 0 ] <sup>14</sup> [ 0 ] <sup>15</sup> [ 0 ] <sup>16</sup> [ 0 ] <sup>17</sup> [ 0 ]

Day of the week of the suicidal act

- : 1 Monday  
2 Tuesday  
3 Wednesday  
4 Thursday  
5 Friday  
6 Saturday  
7 Sunday

<sup>18</sup> [ 6 ]

Time of day of the suicidal act  
(approx.) (24 hour clock)

<sup>19</sup> [ 8 ] <sup>20</sup> [ 0 ] <sup>21</sup> [ 0 ] <sup>22</sup> [ 8 ]  
If N/K code 8888

Place of suicidal act

- : 0 Subject's home  
1 Relative's home  
2 Friend's home  
3 Work  
4 Prison  
5 Outside urban  
X 6 Outside rural  
7 Other  
8 N/K

<sup>23</sup> [ 6 ]

Other (specify)  
\_\_\_\_\_

Mode of death

- : 0 Poisoning  
1 Gasses  
2 Hanging  
3 Drowning  
4 Firearms  
5 Cutting  
6 Jumping  
7 Other unspecified  
8 N/K

<sup>24</sup> [ 7 ]

Had there been within the week prior  
to the subject's death or was there  
to be in the week following the death  
an anniversary of a death of a  
significant other?

- : 0 No  
1 Yes  
8 N/K

<sup>25</sup> [ 0 ]

Was there a note/letter or any other  
written communication?

- : 0 No  
1 Yes - signed  
2 Yes - unsigned  
8 N/K

<sup>26</sup> [ 1 ]

Use of alcohol at the time of the suicidal act

- : 0 No alcohol taken  
1 Drink taken but sober  
2 Drink taken, drunk  
3 Drink taken, condition uncertain  
8 N/K

27  
[0]

Was the suicide witnessed?

- : 0 No  
1 Visibly present  
2 Audibly present  
3 Present by telephone  
4 Informed by telephone  
8 N/K  
9 N/A

28  
[0]

Visibly present - witness actually saw the suicide take place.

Audibly present - usually the case in firearm suicides.

Present by telephone - talking to the victim at the time of death.

Informed by telephone - informed that they are about to or have already completed the suicidal act.

Nature of the witness

- : 0 Spouse  
1 Offspring  
2 Parent  
3 Sibling  
4 Other relative  
5 Friend  
6 Stranger  
7 Multiple witness  
8 N/K  
9 N/A

29  
[9]

Had the subject ever :

1. Categorically stated that they were going to commit suicide?  
2. Made vague statements that he or she might commit suicide, or  
3. Talked more generally about death, dying, or suicide without any specific reference to themselves - to spouse/cohabitee?

0 No  
1 1  
2 2  
3 3  
8 N/K  
9 N/A

30  
[9]

Rate highest ever.

(If not married/cohabiting Code N/A 9)

How long before suicidal act had this statement last been made?

31 32 33 34 35 36  
[9][9][9][9][9][9]  
If N/K 888888  
If N/A 999999

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Rate most recent statement.

1 1  
2 2  
3 3  
8 N/K  
9 N/A

37  
[9]



How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

38 39 40 41 42 43  
[ 9 ][ 9 ][ 9 ][ 9 ][ 9 ][ 9 ]  
If N/K 888888  
If N/A 999999

Had the subject ever :

1. Categorically stated that they were going to commit suicide?
2. Made vague statements that he or she might commit suicide, or
3. Talked more generally about death, dying, or suicide without any specific reference to themselves - to other member of family?

44  
Ø No [ 0 ]  
1 1  
2 2  
2 2  
8 N/K

Rate highest ever.

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

45 46 47 48 48 50  
[ 9 ][ 9 ][ 9 ][ 9 ][ 9 ][ 9 ]  
If N/K 888888  
If N/A 999999

Rate most recent statement.

51  
1 1 [ 9 ]  
2 2  
3 3  
8 N/K  
9 N/A

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

52 53 54 55 56 57  
[ 9 ][ 9 ][ 9 ][ 9 ][ 9 ][ 9 ]  
If N/K 888888  
If N/A 999999

Had the subject ever :

1. Categorically stated that they were going to commit suicide?
2. Made vague statements that he or she might commit suicide, or
3. Talked more generally about death, dying, or suicide without any specific reference to themselves - to friend?

58  
Ø No [ 0 ]  
1 1  
2 2  
2 2  
8 N/K

Rate highest ever.

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

59 60 61 62 63 64  
[ 9 ][ 9 ][ 9 ][ 9 ][ 9 ][ 9 ]  
If N/K 888888  
If N/A 999999



Rate most recent statement.

1 1 [9]  
2 2  
3 3  
8 N/K  
9 N/A

How long before suicidal act had this statement last been made?

66 67 68 69 70 71  
[9][9][9][9][9]  
If N/K 888888  
If N/A 999999

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Had the subject ever :

1 2 3  
[ ] [ ] [ ]  
4 5  
[ ] [ ]

1. Categorically stated that they were going to commit suicide?
2. Made vague statements that he or she might commit suicide, or
3. Talked more generally about death, dying, or suicide without any specific reference to themselves - to GP/other doctor?

~~No~~ No [8]  
1 1  
2 2  
2 2  
8 N/K

Rate highest ever.

x

How long before suicidal act had this statement last been made?

7 8 9 10 11 12  
[8][8][8][8][8][8]  
If N/K 888888  
If N/A 999999

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Rate most recent statement.

13  
1 1 [8]  
2 2  
3 3  
8 N/K  
9 N/A

How long before suicidal act had this statement last been made?

14 15 16 17 18 19  
[8][8][8][8][8][8]  
If N/K 888888  
If N/A 999999

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Had the subject ever :

1. Categorically stated that they were going to commit suicide?
2. Made vague statements that he or she might commit suicide, or
3. Talked more generally about death, dying, or suicide without any specific reference to themselves - to minister?

20  
No [0]  
1 1  
2 2  
2 2  
8 N/K

Rate highest ever.

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Rate most recent statement.

21 22 23 24 25 26  
[9][9][9][9][9][9]  
If N/K 888888  
If N/A 999999

27  
1 1 [9]  
2 2  
3 3  
8 N/K  
9 N/A

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Had the subject ever :

1. Categorically stated that they were going to commit suicide?
2. Made vague statements that he or she might commit suicide, or
3. Talked more generally about death, dying, or suicide without any specific reference to themselves - to other (specify)?

34  
NO [8]  
1 1  
2 2  
2 2  
8 N/K

Rate highest ever.

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

Rate most recent statement.

35 36 37 38 39 40  
[8][8][8][8][8][8]  
If N/K 888888  
If N/A 999999

41  
1 1 [ ]  
2 2  
3 3  
8 N/K  
9 N/A

How long before suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

42 43 44 45 46 47  
[8][8][8][8][8][8]  
If N/K 888888  
If N/A 999999

Was the subject known to the Samaritans?

- : 1 No  
2 Yes  
3 Possible  
8 N/K

48  
[ ]

PREVIOUS PARASUICIDE (From Informant)

Have there been any previous parasuicidal episodes (with or without medical contact)

- Ø No  
1 Yes  
2 Possible  
8 N/K

If yes, record on separate sheet

Total number of previous parasuicidal episodes (may include episodes which have not come to medical attention)

If none code ØØ  
If N/K code 88

Total number of previous parasuicidal episodes which have resulted in admission to ~~some other hospital~~ LORS.

If none code ØØ  
If N/K code 88

Total number of previous parasuicidal episodes which have resulted in admission to ~~some~~ other hospital

If none code ØØ  
If N/K code 88

(Specify \_\_\_\_\_)

Duration between last parasuicidal episode : and suicidal act which resulted in death?

\_\_\_\_\_ years \_\_\_\_\_ months  
\_\_\_\_\_ days

13 14 15 16 17 18  
[ 0 ] [ 2 ] [ 0 ] [ 0 ] [ 0 ] [ 0 ]

(If N/K code 888888)  
(If N/A (i.e. no previous parasuicidal episode) code 999999)

Method of last parasuicide?

If other, specify :  
\_\_\_\_\_

- : 1 Poisoning  
2 Gasses  
3 Hanging  
4 Drowning  
5 Cutting  
6 Jumping  
7 Other  
8 N/K  
9 N/A (No previous parasuicide)

Was this the same method as used in the final suicidal act?

- : Ø No  
1 Yes  
8 N/K  
9 N/A

Treatment following the last parasuicide?

If other, specify :  
\_\_\_\_\_

- : Ø No medical contact  
1 GP contact only  
2 A & E only  
3 RPTC only  
4 RPTC or other hospital + psychiatric outpatient  
5 RPTC or other hospital + psychiatric inpatient  
6 Other  
8 N/K  
9 N/A

Disposal following last parasuicide

Case No [ 0 ] [ 0 ] [ 1 ]

Record No [ ] [ 6 ]

PREVIOUS PARASUICIDES (From Informant)

Code previous parasuicides as follows :

DATE	METHOD	TREATMENT	DISPOSAL
Code	0 Poisoning	0 No medical contact	1 Admitted
month/	1 Gasses	1 GP contact only	2 Follow-up psychiatric
year.	2 Hanging	2 A + E only	appt. (including day
	3 Drowning	3 RPTC	hospital)
If month	4 Firearms	4 Other hospital	4 Open psychiatric appt.
not known	5 Cutting	8 N/K	7 Follow-up by GP
code 00.	6 Jumping	9 N/A	8 Follow-up by social
	7 Other		work dept.
	(unspecified)		10 Follow-up by community
	8 N/K		nurses
	9 N/A		11 Follow-up by clinical
			psychology
			12 Follow-up by other
			medical specialty
			05 In-patient waiting list
			06 Discharge
			09 Other
			88 N/K
			99 N/A

DATE	METHOD	TREATMENT	DISPOSAL
24 25 26 27	28	29	30 31
[ 1 ] [ 9 ] [ 9 ] [ 3 ]	[ 3 ]	[ 4 ]	[ 0 ] [ 1 ]
32 33 34 35	36	37	38 39
[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]
40 41 42 43	44	45	46 47
[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]
48 49 50 51	52	53	54 55
[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]
56 57 58 59	60	61	62 63
[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]
64 65 66 67	68	69	70 71
[ ] [ ] [ ] [ ]	[ ]	[ ]	[ ] [ ]
72 73 74 75	76	77	78 79

Was there an episode in which suicide was threatened and prevented ("prevented suicide") (e.g. threatening to jump from balcony/bridge or lying on railway track).

- Ø No  
1 Yes  
2 Possible  
8 NK

[0]

Total number of "prevented suicide" episodes.

- 1 1  
2 2  
3 3  
4 4  
5 5  
6 6 or more  
8 N/K  
9 N/A

[9]

Duration between last "prevented suicide" episode and death.

[9][9][9][9][9][9]

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

If N/K Code 888888  
If N/A Code 999999

Method of last "prevented suicide".

1. Poisoning  
2. Gasses  
3. Hanging  
4. Drowning  
5. Cutting  
6. Jumping  
7. Other  
8. N/K  
9. N/A (No episode)

[9]

Was this the same method as used in the final suicidal act?

- Ø. No  
1. Yes  
8. N/K  
9. N/A

[9]

Was the patient admitted to psychiatric hospital within a week of the last "prevented suicide"?

- Ø. No  
1. Yes  
8. N/K  
9. N/A

[9]

Case No <sup>1</sup> [0] <sup>2</sup> [0] <sup>3</sup> [1]  
Record No <sup>4</sup> [ ] <sup>5</sup> [7]

GENERAL PRACTITIONER QUESTIONNAIRE

Was the subject registered with a

<sup>6</sup>  
[1]

How long had the subject been  
registered in the practice?

<sup>7</sup> <sup>8</sup> <sup>9</sup> <sup>10</sup>  
[4][1][ ][ ]

(Code 88 if N/K)  
(Code 99 if N/A)

\_\_\_\_\_ years \_\_\_\_\_ months

How many times had the subject visited  
the GP in the 12 months prior to the  
suicidal act?

<sup>11</sup> <sup>12</sup>  
[8][8]

(Code 88 if N/K)  
(Code 99 if N/A)

\_\_\_\_\_ number

How many times had the subject visited  
the GP in the 13-24 months prior to the  
suicidal act?

<sup>13</sup> <sup>14</sup>  
[8][8]

(Code 88 if N/K)  
(Code 99 if N/A)

\_\_\_\_\_ number

How many times had the subject visited  
the GP in the 25-36 months prior to the  
suicidal act?

<sup>15</sup> <sup>16</sup>  
[8][8]

(Code 88 if N/K)  
(Code 99 if N/A)

\_\_\_\_\_ number

Duration between the last appointment  
with the GP and the suicidal act?

<sup>17</sup> <sup>18</sup> <sup>19</sup> <sup>20</sup> <sup>21</sup> <sup>22</sup>  
[8][8][8][8][8][8]

(If N/K code 888888)  
(If N/A code 999999)

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ days

What was the main problem identified by  
the GP at the last appointment?

<sup>23</sup>  
[2]

Specify : \_\_\_\_\_

- 1 Psychological  
2 Psychological/Physical  
3 Physical  
4 Other  
specify: \_\_\_\_\_  
8 N/K  
9 N/A

Had the subject ever categorically  
stated to the GP that he or she was  
going to commit suicide?

<sup>24</sup>  
[9]

- 0 No  
1 Yes  
2 Possible  
8 N/K  
9 N/A

How long before the suicidal act had this statement last been made?

\_\_\_\_\_ years \_\_\_\_\_ months

\_\_\_\_\_ days

25 26 27 28 29 30  
[8][8][8][8][8][8]  
(If N/K code 888888)  
(If N/A code 999999)

Had the subject ever made vague statements to the GP that he or she might commit suicide?

- : ☒ No  
1 Yes  
2 Possible  
8 N/K  
9 N/A

31  
[0]

How long before the suicidal act had these statements been made?

\_\_\_\_\_ years \_\_\_\_\_ months

\_\_\_\_\_ days

32 33 34 35 36 37  
[9][9][9][9][9][9]  
(If N/K code 888888)  
(If N/A code 999999)

Had the subject talked to the GP more generally about death, dying or suicide without any specific reference to themselves?

- : ☒ No  
1 Yes

38  
[0]

How long before the suicidal act had these statements been made?

\_\_\_\_\_ years \_\_\_\_\_ months

\_\_\_\_\_ days

39 40 41 42 43 44  
[9][9][9][9][9][9]  
(If N/A code 999999)

Was the subject taking medication at the time of death?

(Psychotropic medication excludes hypnotics)

- : ☒ No medication  
1 Psychotropic medication alone  
2 Psychotropic + others  
3 Others  
8 N/K  
9 N/A

45  
[2]

Treatment with antidepressants?

- : ☒ No treatment  
1 Treatment in the past - now stopped  
2 Currently taking - at the time of death  
8 N/K

46  
[8]

Treatment with minor tranquillizers?

- : ☒ No treatment  
1 Treatment in the past - now stopped  
2 Currently taking - at the time of death  
8 N/K

47  
[8]



Treatment with major tranquillizers?  
(oral preparation only)

- : ☒ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

48  
[2]

Treatment with major tranquilisers?  
(IM depot injections)

- : ☒ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

49  
[2]

Treatment with Lithium?

- : ☒ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

50  
[8]

Treatment with hypnotics?

- : ☒ No treatment  
1 Treatment in the past  
- now stopped  
2 Currently taking - at  
the time of death  
8 N/K

51  
[8]

Had the subject ever consulted their  
GP with psychiatric or psychological  
problems?

(Code if GP thought so even if subject  
consulted with a physical problem)

Currently attending - appointment made  
or expected)

- : ☒ No  
1 Had consulted in the past  
- not currently attending  
2 Currently attending with  
psychiatric/psychological  
problems  
3 Currently attending with  
"other" problems -  
psychiatric content unsure  
8 N/K

52  
[1]

Did the subject have any physical symptoms :  
or illnesses for which he/she was  
currently receiving treatment from GP?  
(Treatment must include either medication  
or a further appointment - appointment may  
not have been made but is expected)

- ☒ No  
1 Yes  
2 Possible but unsure  
8 N/K

53  
[1]

Specify : \_\_\_\_\_



Did the subject have any physical symptoms or illnesses for which he/she was currently receiving treatment from hospital specialist?  
(Treatment must include either medication or a further appointment - appointment may not have been made but is expected)

: ☒ No

- 1 Yes  
2 Possible but unsure  
8 N/K

54  
[ ]

Specify : \_\_\_\_\_

Was the subject suffering from a serious illness or illnesses?  
(Serious illness defined as one which has required referral to a hospital specialist)

: ☒ No

- 1 Yes  
2 Possible but unsure  
8 N/K

55  
[ ]

Was the subject suffering from symptoms which markedly restricted his or her physical activity?  
(Physical activity significantly different from that possible 5 years previously)

: ☒ No

- 1 Yes  
2 Possible but unsure  
8 N/K

56  
[ ]

Was the subject suffering from a terminal illness?  
(Terminal illness - an illness from which no cure was expected and death was expected within 1 year)

: ☒ No

- 1 Yes  
2 Possible but unsure  
8 N/K

57  
[ ]

Specify : \_\_\_\_\_

Was the subject suffering from symptoms of chronic pain?  
(Chronic - symptoms lasting more than one year

: ☒ No

- 1 Yes  
2 Possible but unsure  
8 N/K

58  
[ ]

Pain - a symptom for which the subject takes medication usually at least once a day on a regular basis)

Case No      1      2      3  
              [ 0 ] [ 0 ] [ 1 ]  
                     4      5  
Record No      [   ] [ 8 ]

PSYCHIATRIC NOTES (General)

Has the subject ever had any psychiatric contact?

- :    0 No  
     1 Yes  
     2 Unsure/possible  
     8 N/K
- 6  
[ 1 ]

Psychiatric contact has been

- :    0 None  
     1 RPTC only or other general hospital following parasuicide  
     2 RPTC + outpatient (REH)  
     3 RPTC + inpatient (REH)  
     4 Outpatient only (REH)  
     5 Outpatient only (elsewhere)  
     6 ~~Outpatient + inpatient (REH)~~  
     7 Outpatient + inpatient (elsewhere)  
     8 N/K  
     9 N/A
- 7  
[ 7 ]

Is the subject registered on the LPCR?

- :    0 No  
     1 Yes
- 8  
[ 5 ]

If no previous parasuicides code 00  
(If N/K code 88)

Case No. [0] [0] [1]

Record No. [ ] [8]

PSYCHIATRIC NOTES (Previous parasuicides)

Number of admissions to RPTC or other : (If N/A code 99)  
general hospital following parasuicide

<sup>9</sup> 10  
[9][9]

\_\_\_\_\_ number

Date of the last admission following :  
parasuicide

11 12 13 14 15 16  
[ ][ ][ ][ ][9][3]

If N/K code 888888

If N/A code 999999

Method of last parasuicide :  
(See Method list)

If N/K code 8  
If N/A code 9

17  
[3]

Diagnosis following last parasuicide :  
(See ~~ICD-9~~ Classification)

If N/K code 888  
If N/A code 999

18 19 20  
[ ][ ][ ]

Disposal following last parasuicide :  
(See Disposal list)

If N/K code 8  
If N/A code 9

21  
[ ]

Case No. [0] [0] [1]

Record No. [ ] [8]

PSYCHIATRIC NOTES (Outpatient attendance)

Number of episodes of psychiatric outpatient attendance.

22 23  
[8] [8]

If never attended code 00

If N/K code 88

If N/A code 99

Date of last psychiatric outpatient attendance

24 25 26 27 28 29  
[2] [9] [1] [2] [9] [5]

If never attended code 00000000

If N/K code 88

If N/A code 99

Diagnosis at last psychiatric outpatient attendance  
(~~ICD-9~~ Classification)

30 31 32  
[ ] [ ] [ ]

If never attended code 0000

If N/K code 888

If N/A code 999

Treatment at last psychiatric outpatient attendance

33  
[8]

If never attended code 00

If N/K code 88

If N/A code 99

Disposal following last psychiatric attendance

34 35  
[8] [8]

If never attended code 00

If N/K code 88

If N/A code 99

DEFAULT

PSYCHIATRIC NOTES (Inpatient Treatment)

Number of episodes of psychiatric inpatient treatment.

36 37  
[ 0 ] [ 6 ]

If no inpatient treatment code 000  
N/K code 88

Date of admission of last episode of psychiatric inpatient treatment

38 39 40 41 42 43  
[ - ] [ - ] [ 0 ] [ 3 ] [ 9 ] [ 5 ]

If no inpatient treatment code 0000000  
N/K code 888888

Date of discharge of last episode of psychiatric inpatient treatment

44 45 46 47 48 49  
[ 8 ] [ 8 ] [ 8 ] [ 8 ] [ 8 ] [ 8 ]

If no inpatient treatment code 0000000  
N/K code 888888

Diagnosis of last episode of psychiatric inpatient treatment

50 51 52  
[ ] [ ] [ ]

(See ICD-9 Classification)

If no inpatient treatment code 000  
N/K code 888

Number of different diagnoses assigned during episodes of inpatient treatment

53  
[ 8 ]

If no inpatient treatment code 0  
N/K code 8

If more than one diagnosis given during different episodes of inpatient treatment code the diagnosis with the lowest ICD-9 number

54 55 56  
[ 8 ] [ 8 ] [ 8 ]

If no inpatient treatment code 000  
N/K code 888

Disposal following last episode of psychiatric inpatient treatment

57 58  
[ ] [ ]

If no inpatient treatment code 000  
N/K code 88

Case No. 1 2 3  
[ 0 ] [ 0 ] [ 1 ]  
4 5  
Record No. [ ] [ 9 ]

PSYCHIATRIC NOTES (Outpatient attendance)

Date of first contact following referral  
(Day, month, year)

[ ][ ][ ][ ][ 9 ][ ]

Date of last attendance in that episode  
(Day, month, year)

[ ][ ][ ][ ][ ][ ]

Diagnosis - see ~~ICD-9~~ Classification

[ ][ ][ ]

- Therapy : 0 Antidepressants  
1 Major tranquillisers (oral)  
2 Major tranquillisers (IM)  
3 Lithium  
4 Minor tranquillisers/hypnotics  
5 ECT  
6 Psychotherapy  
7 No specific treatment identified  
8 N/K  
9 N/A

[ 8 ]

Disposal following first contact

[ 0 ][ ]

- 01 Admitted  
02 Follow-up psychiatric appointment (including Day Hospital)  
04 Open psychiatric appointment  
07 Follow-up by GP  
08 Follow-up by Social Work Department  
10 Follow-up by Community Psychiatric Nurses  
11 Follow-up by Clinical Psychology  
12 Follow-up by other medical specialty  
05 Inpatient waiting list  
06 Discharge  
09 Other  
88 N/K

Outpatient attendance

First contact						Last attendance						Diagnosis			Therapy		Disposal	
6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		22	23
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39		40	41
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]
42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57		58	59
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75		76	77
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]

Case No      1      2      3  
                  [ ] [ ] [ ]  
                  4      5  
 Record No    [ 1 ] [ 0 ]

PSYCHIATRIC NOTES (Previous parasuicides)

PREVIOUS PARASUICIDES ADMITTED TO RPTC OR OTHER HOSPITAL

Code previous parasuicides as follows :

DATE	METHOD	DIAGNOSIS	DISPOSAL
Day, Month, Year.	0 Poisoning 1 Gasses 2 Hanging 3 Drowning 4 Firearms 5 Cutting 6 Jumping 7 Other (unspecified) 8 N/K 9 N/A	See ICD-9 Classification	01 Admitted 02 Follow-up psychiatric appt. (including day hospital) 04 Open psychiatric appt. 07 Follow-up by GP 08 Follow-up by social work dept. 10 Follow-up by community nurses 11 Follow-up by clinical psychology 12 Follow-up by other medical specialty 05 In-patient waiting list 06 Discharge 09 Other 88 N/K

DATE						METHOD		DIAGNOSIS			DISPOSAL	
6	7	8	9	10	11	12		13	14	15	16	17
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]	[ ]	[ ]	[ ]
18	19	20	21	22	23	24		25	26	27	28	29
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]	[ ]	[ ]	[ ]
30	31	32	33	34	35	36		37	38	39	40	41
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]	[ ]	[ ]	[ ]
42	43	44	45	46	47	48		49	50	51	52	53
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]	[ ]	[ ]	[ ]
54	55	56	57	58	59	60		61	62	63	64	65
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]	[ ]	[ ]	[ ]
66	67	68	69	70	71	72		73	74	75	76	77
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]		[ ]	[ ]	[ ]	[ ]	[ ]

Case No.

[ 1] [ 1]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1

[[ 2]] [[ 3]] [[ 4]] [[ 5]]

$$[ \quad ] [ \quad ] [ \quad ]$$

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[ 2 ][ 1 ][ 2 ][ 1 ][ 2 ][ 3 ]

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[ ] [ ] [ ] [ ] [ ]

23 24 25 26 27 28  
[ / ][ 6 ][ 1 ][ 1 ][ 9 ][ 3 ]

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52 53 54 55 56  
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57 58 59 60 61 62  
[ 2 ][ 1 ][ 0 ][ 1 ][ 5 ][ 5 ]

63 64 65 66 67 68  
[ ] [ ] [ ] [ ] [ ] [ ]

69 70 71 72 73  
[ ] [ ] [ ] [ ] [ ]

02 Follow-up psychiatric appointment (including day hospital)  
04 Open psychiatric appointment  
07 Follow-up by GP  
08 Follow-up by Social Work Department  
10 Follow-up by Community Nurses  
11 Follow-up by Clinical Psychology  
12 Follow-up by other medical specialty  
05 In-patient waiting list  
06 Discharge - no follow-up  
09 Other  
88 N/K



INFORMANTS: CONTACT WITH DECEASED

Informant Code No.	Relationship to deceased <sup>1</sup>	Same household? <sup>2</sup>	Face-to- Face contact <sup>3</sup>	S tell informant? <sup>4</sup>	Easy to reach? <sup>5</sup>	Informant <sub>6</sub> tell S?
I [   ] [   ] [   ] - [   ] 6   7   8   9	[   ] 10	[   ] 11	[   ] 12	[   ] 13	[   ] 14	[   ] 15
I [   ] [   ] [   ] - [2] 16 17 18 19	[   ] 20	[   ] 21	[   ] 22	[   ] 23	[   ] 24	[   ] 25
I [   ] [   ] [   ] - [3] 26 27 28 29	[   ] 30	[   ] 31	[   ] 32	[   ] 33	[   ] 34	[   ] 35
I [   ] [   ] [   ] - [4] 36 37 38 39	[   ] 40	[   ] 41	[   ] 42	[   ] 43	[   ] 44	[   ] 45
I [   ] [   ] [   ] - [5] 46 47 48 49	[   ] 50	[   ] 51	[   ] 52	[   ] 53	[   ] 54	[   ] 55

1. Relationship to deceased

- 0. Spouse/cohabitee
- 1. Child
- 2. Parent
- 3. Sibling
- 4. Other relative (specify)  
(                                      )
- 5. Friend/neighbour
- 6. General Practitioner
- 7. Other (specify)  
(                                      )

2. In same household as deceased?

- 0. No
- 1. Yes - usual household = household  
at time of death
- 2. Yes - at time of death only

3. Face-to-face contact in month  
before death

- 1. Daily
- 2. At least 3 times per week
- 3. At least once per week
- 4. At least once during period
- 5. Never

4. Could S tell informant absolutely  
everything?

- 0. Could not tell everything
- 1. Could but did not tell everything
- 2. Could tell everything

5. Would informant always have  
been easy to reach (available)  
any time S needed him/her?

- 1. Over 50 miles away - no phone
- 2. As (1) - but had phone
- 3. Easily contacted but not  
guaranteed to attend  
immediately OR not easily  
contactable a large part of  
time
- 4. Easily available part of each  
day but EITHER difficult to  
contact OR could not be  
present with 1 hour
- 5. Available virtually any time,  
can be contacted quickly and  
be present within 1 hour

6. Did informant tell S all his/  
her worries and troubles?

- 1. Did not tell S all troubles
- 2. Probably did not tell S all  
troubles
- 3. Told S all troubles

Case No. [ 1 ] [ 2 ] [ 3 ]  
 Record No. [ 1 ] [ 1 ]  
 4 5

SOCIAL AND PERSONAL PROBLEMS

Use of excessive physical force on anyone in 5 years prior to death

- 0. Not violent
- 1. Violent

[ ]  
57

Victim of excessive physical force from spouse or other relative in 5 years prior to death

- 0. Violence not received
- 1. Violence received

[ ]  
58

Criminal record

- 0. No previous criminal record
- 1. Previously in prison - in past year
- 2. Previously in prison - NOT in past year
- 3. Conviction - in past year
- 4. Conviction - NOT in past year

[ ]  
59

Children's Panel

- 0. No appearance at hearing; none pending
- 1. Previous appearance - criminal
- 2. Previous appearance - noncriminal
- 3. Appearance pending - criminal
- 4. Appearance pending - noncriminal

[ ]  
60

Police investigations at time of death

- 0. Not under investigation by police
- 1. Under investigation by police

[ ]  
61

Police proceedings at time of death

- 0. Police action not threatened
- 1. Police action threatened
- 2. Police action in progress

[ ]  
62

S's financial worries at time of death

- 0. No financial worries
- 1. Noticeably worried about money
- 2. Extremely worried about money and under severe strain to manage

[ ]  
63

CRIMINALITY UNWILLING TO PUNISH

Change in S's finances in year prior to death

1. Extreme improvement
2. Moderate improvement
3. No change
4. Moderate deterioration
5. Extreme deterioration

[ ]  
64

(If change)

(specify) \_\_\_\_\_  
\_\_\_\_\_

(If change)

When did this occur?

\_\_\_\_\_ months )  
\_\_\_\_\_ ) before S's death  
\_\_\_\_\_ weeks )

[ ] [ ]  
65 66  
[ ]  
67

Change in personal finances in S's household in year prior to S's death

1. Extreme improvement
2. Moderate improvement
3. No change
4. Moderate deterioration
5. Extreme deterioration

[ ]  
68

(If change)

(specify) \_\_\_\_\_

(If change)

When did this occur?

\_\_\_\_\_ months )  
\_\_\_\_\_ ) before S's death  
\_\_\_\_\_ weeks )

[ ] [ ]  
69 70  
[ ]  
71

Debts at time of death

0. No debts
1. Arrears of payment (rent or other outstanding debts)
2. Court action threatened
3. Court action pending

[ ]  
72

Case No. [ 1 ] [ 2 ] [ 3 ]  
Record No. [ 1 ] [ 1 ]  
4 5

EDUCATION

1. In education at time of death?

Ø. No

1. Yes (specify) \_\_\_\_\_

[ ]  
74

2. Age at which education (full-time) finished: \_\_\_\_\_ years

[ ] [ ]  
75 76

(If in education at time of death, code age at death)

3. Level of educational qualifications

- |                 |                 |
|-----------------|-----------------|
| Ø. None         | 5. 'O' Level(s) |
| 1. Degree       | 6. CSE          |
| 2. Diploma      | 7. Overseas     |
| 3. 'A' Level(s) | 8. Other        |
| 4. Higher(s)    |                 |

[ ]  
77

4. Level of occupational qualifications

- |                 |               |
|-----------------|---------------|
| Ø. None         | 3. Commercial |
| 1. Professional | 4. Nursing    |
| 2. Apprentice   | 5. Other      |

[ ]  
78

5. Special education?

Ø. No

1. Yes (specify) \_\_\_\_\_

[ ]  
79

EMPLOYMENT HISTORY

Section A. GENERAL

1. Economic position at time of death

(Economically active)

- 01. In paid employment - full time (> 30 hours/week)
- 02. In paid employment - part time (≤ 30 hours/week)
- 03. In paid employment - temporarily off sick
- 04. Government scheme (specify) \_\_\_\_\_
- 05. Not in paid employment - waiting to take up job  
already accepted
- 06. Not in paid employment - looking for work: claimant
- 07. Not in paid employment - looking for work: nonclaimant
- 08. Not in paid employment - not looking for work:  
temporarily sick

(Economically inactive)

- 09. Retired
- 10. Permanently sick/disabled
- 11. Full-time student
- 12. Housewife/husband
- 13. Other (specify) \_\_\_\_\_

[ ] [ ]  
6 7

2. Was S EVER in paid employment?

0. No

- 1. Yes (include government schemes)

[ ]  
8

(If 'No', go to Section G)

Section B. EMPLOYMENT HISTORY IN PAST 5 YEARS

\* COMPLETE EMPLOYMENT HISTORY CHART \*

3. N. of jobs (i.e. paid employment) in last 5 years in life  
including job held at death, if applicable)

\_\_\_\_\_ jobs (include government schemes)

[ ] [ ]  
9 10

4. (If none)

Reasons for no paid employment in past 5 years

- 1. Under 16 years old at death
- 2. Psychological disability (specify) \_\_\_\_\_
- 3. Physical disability (specify) \_\_\_\_\_
- 4. Psychological and physical disability  
(specify) \_\_\_\_\_
- 5. Unable to find work - not 1-4 above  
(specify) \_\_\_\_\_
- 6. Not seeking work - housewife/husband
- 9. N.A. (in paid employment)

[ ]  
11

5. (If none)  
How long since last job?

\_\_\_\_\_ years  
(99 = Never had job; in employment at death)

[ ][ ]  
12 13

6. Number of jobs lasting less than 3 months during last 5 years of life (including current job, where applicable)

\_\_\_\_\_ jobs  
(99 = Never had job)

[ ][ ]  
14 15

7. Length of time in present/last job

\_\_\_\_\_ months \_\_\_\_\_ weeks  
(9999 = Never had job)

[ ][ ][ ][ ]  
16 17 18 19

8. Time "off sick" in last year  
(i.e. in paid employment but absent from work due to temporary illness)

\_\_\_\_\_ weeks \_\_\_\_\_ days  
(9999 = No paid employment in last year)

[ ][ ][ ][ ]  
20 21 22 23

9. Major reason for such absence(s)

1. Psychological illness

2. Physical illness

3. Both

4. Other (specify) \_\_\_\_\_

9. No time off sick \_\_\_\_\_

[ ]  
24

10. Total spells of unemployment (official, i.e. receiving unemployment benefit or claiming supplementary benefit) during past 5 years (including current spell, where applicable)

\_\_\_\_\_ spells of unemployment  
(99 = Not economically active)

[ ][ ]  
25 26

11. Total amount of time unemployed (officially) over past 5 years (including current spell, where applicable)

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ weeks  
(999999 = Not economically active)

[ ][ ][ ][ ][ ][ ]  
27 28 29 30 31 32

Section C. OCCUPATION, EMPLOYMENT STATUS AND SOCIAL CLASS

12. S's job at time of death (or last job, if unemployed or economically inactive)

(describe) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. S's employment status (last/present job)

1. Self-employed - 25+ employees
2. Self-employed - <25 employees
3. Self-employed - no employees
4. Manager - 25+ employees
5. Manager - <25 employees
6. Foreman/Supervisor
7. Employee
9. N.A.

[ ]

33

14. S's social class (own rating)

Class \_\_\_\_\_

[ ]

34

15. S's S.E.G. (own rating)

S.E.G. \_\_\_\_\_

[ ] [ ]

35 36

16. (If S a woman)

S's husband's (or father's, if S single) present/  
last occupation

(describe) \_\_\_\_\_

.

17. (If S a woman)

S's husband's/father's employment status (last/present job)

1. Self-employed - 25+ employees
2. Self-employed - <25 employees
3. Self-employed - no employees
4. Manager - 25+ employees
5. Manager - <employees
6. Foreman/Supervisor
7. Employee
9. N.A.

[ ]

37

18. (If S a woman)

S's social class (husband/father rating)

Class \_\_\_\_\_ (N.A. = 9)

[ ]

38

19. (If S a woman)

S's S.E.G. (husband/father rating)

S.E.G. \_\_\_\_\_ (N.A. = 99)

[ ] [ ]

39 40

(IF SUBJECT UNEMPLOYED AT DEATH, GO TO SECTION D;

IF SUBJECT RETIRED AT DEATH, GO TO SECTION E;

IF SUBJECT EMPLOYED AT DEATH, GO TO SECTION F;

IF SUBJECT NEVER BEEN ECONOMICALLY ACTIVE, GO TO SECTION G)



Section D. UNEMPLOYMENT

(Answer this section if S unemployed - i.e. economically active but not in paid employment - at death)

20. Duration of spell of unemployment (official)

\_\_\_\_\_ years \_\_\_\_\_ months \_\_\_\_\_ weeks  
(999999 = Not unemployed)

[ ][ ][ ][ ][ ][ ]  
41 42 43 44 45 46

21. Circumstances of leaving past job

1. Voluntary redundancy - alone
2. Voluntary redundancy - with others
3. Involuntary redundancy - alone
4. Involuntary redundancy - with others
5. Retired
6. Dismissed\*
7. Left of own accord\*
8. Other reason(s) (specify) \_\_\_\_\_

[ ]  
47

(\* answer D22)

22. (If S dismissed/left job of own accord)  
Major reason for dismissal (leaving)

01. Dissatisfaction with pay
02. Dissatisfaction with other aspect of work situation
03. General dissatisfaction
04. Dispute
05. Bad timekeeping
06. Faulty work
07. Criminal offence
08. Sickness/injury
09. Pregnancy
10. Other domestic/family
11. Other (specify) \_\_\_\_\_

99. N.A.

[ ][ ]  
48 49

23. How actively was S seeking employment at the time of his/her death?

1. Active measures taken (e.g. answering adverts, writing letters, going to Job Centre)
2. No active measures taken

[ ]  
50

24. How hopeful was S of obtaining paid employment in the near future?

0. No hope at all - given up idea of ever finding paid employment
1. Hopeful of getting paid employment, but not in the near future
2. Hopeful of getting paid employment in near future

[ ]  
51

(GO TO SECTION G)



Section E. RETIREMENT

(Answer this section if S retired from full-time lifetime job)

25. Age at retirement from full-time lifetime job

\_\_\_\_ years

(N.A. = 00)

[ ] [ ]  
52 53

26. Was this below normal retirement age? (65 for men, 60 for women)

0. No

1. Yes

9. Not applicable

[ ]  
54

27. (If retired below usual age)

Major reason for early retirement

1. Stress at work

2. Ill health - psychological

3. Ill health - physical

4. Ill health - psychological and physical

5. Family reasons

6. Other (specify) \_\_\_\_\_

9. N.A.

[ ]  
55

28. Age at which S gave up paid employment

\_\_\_\_ years

(N.A. = 00)

[ ] [ ]  
56 57

(GO TO SECTION G)

Section F. PAID EMPLOYMENT

(Answer this section if S in paid employment at death)

29. Do you have any idea how S was getting on at work?

- Did s/he talk about difficulties in keeping up with the pace of work?
- Did s/he talk about difficulties in getting on with colleagues and supervisors
- Any complaints (official/unofficial) re. his/her work
- Demotion? Change to other job with same firm/company? Threat of demotion/dismissal?

Rate work performance

- 0. No difficulties
- 1. Minor difficulties noted only by S; no important consequences for organisation
- 2. Moderate difficulties - noted by supervisor but not warranting reprimand; creating some dislocation in organisation
- 3. Serious difficulties - noted by supervisor and warranting reprimand; creating moderate dislocation in organisation
- 4. Extreme difficulties - leading to demotion and/or threat of dismissal; creating severe dislocation in organisation

[ ]  
58

(GO TO NEXT TOPIC)

30. How secure did S feel in his/her employment?

- Did s/he have doubts about the security of his/her job?
- Did s/he have doubts about the future of the business/organisation where s/he worked?

Rate feeling of job insecurity

- 0. No feelings of job insecurity
- 1. Mild feelings of job insecurity - related (mostly) to own performance
- 2. Mild feelings of job insecurity - related (mostly) to performance of business/organisation
- 3. Mild feelings of job insecurity - related to own and business performance
- 4. Marked feelings of job insecurity - related (mostly) to own performance
- 5. Marked feelings of job insecurity - related (mostly) to performance of business/organisation
- 6. Marked feelings of job insecurity - related to own and business performance
- 9. N.A.

[ ]  
59

Section G. UNEMPLOYMENT OR ECONOMIC INACTIVITY

(Answer this section if S unemployed or economically inactive)

31. Was S doing any voluntary work at time of death?

0. No

1. Yes (specify) \_\_\_\_\_

[ ]  
60

32. (If 'Yes')

How many hours per week?

\_\_\_\_\_ hours

(N.A. = 00)

[ ][ ]  
61 62

33. In your view, did the fact that S was without paid employment have anything to do with his/her death?

1. Definitely not

2. Unlikely

3. Not sure

4. Likely

5. Definitely

[ ]  
63

34. (If 'likely' or 'definitely')

In what way?

- Effect on physical health

0. No

1. Yes

9. N.A.

[ ]  
64

- Effect on psychological health

0. No

1. Yes

9. N.A.

[ ]  
65

- Effect on income level

0. No

1. Yes

9. N.A.

[ ]  
66

- Other effect (specify) \_\_\_\_\_

0. No

1. Yes

9. N.A.

[ ]  
67

(IF S NEVER IN PAID EMPLOYMENT, GO TO SECTION H;  
OTHERWISE GO TO NEXT TOPIC)

Section H. NEVER IN PAID EMPLOYMENT

(Answer this section if S never in paid employment  
during lifetime)

35. Why never in paid employment?

1. Under 16 years old at death

2. Psychological disability

(specify) \_\_\_\_\_

3. Physical disability

(specify) \_\_\_\_\_

4. Psychological and physical disability

(specify) \_\_\_\_\_

5. Unable to find work - not in 1-4 above

(specify) \_\_\_\_\_

6. Not seeking work - housewife/husband

9. N.A.

[ ]  
68

36. Partner's/father's/mother's present/last occupation  
(If married, cohabiting, give partner's occupation;  
otherwise, give father's or, where not available,  
mother's occupation)

(describe) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

37. Partner's/father's/mother's employment status  
(present/last job)

1. Self-employed - 25+ employees
2. Self-employed - <25 employees
3. Self-employed - no employees
4. Manager - 25+ employees
5. Manager - <25 employees
6. Foreman/Supervisor
7. Employee
9. N.A.

[ ]  
69

38. S's social class (partner/father/mother rating)

Class \_\_\_\_\_ (N.A. = 9)

[ ]  
70

39. S's S.E.G (partner/father/mother rating)

S.E.G. \_\_\_\_\_ (N.A. = 99)

[ ][ ]  
71 72

(GO TO NEXT TOPIC)

EMPLOYMENT HISTORY OVER PAST 5 YEARS

Date of death \_\_\_\_\_ Period covered: \_\_\_\_\_ to \_\_\_\_\_

Date started	Date finished	Description of employment (if in paid employment)	Economic position* (code 01-13)	Employment Status** (code 1-7)	RG Social Class	RG S.E.G.
(START AT BEGINNING OF PERIOD AND FINISH AT DEATH)					(LEAVE BLANK)	

AVAILABILITY OF SOCIAL INTEGRATION  
(DIFFUSE SUPPORT)

First, I would like to get some idea of the people around S in his/her life. The first questions will be about people S knew a little, but who were not close friends.

\*(SI1) I'd like you to think about the kind of people S might have exchanged a word or two with - e.g. someone serving in a shop or office, [ ]  
Most days how many people like this did S see [in the month before his/her death]?

0. None 1. 1-5 2. 6+ [ ]  
 6

\*(SI2) How about people S might have known just a little, to smile or wave to, or say good morning to? How many of these did S see on a typical day [in the month before s/he died]?

0. None 1. 1-5 2. 6+ [ ]  
 7

\*(SI3) How many people with similar interests did S have contact with [in the month before his/her death]?

0. None 1. 1-5 2. 6+ [ ]  
 8

\*(SI4) IF S EMPLOYED AT TIME OF DEATH  
How often did S go out with people at work [in the last 6 months before his/her death]?

0. Not at all 2. 2+ times [ ]  
 1. Once 9. N.A. 9

\*(SI5) In the week before s/he died, how many people whom S knew did s/he have contact with?

0. None 1. 1-5 2. 6+ [ ]  
 10

\*(SI6) How many friends did S have who could come to his/her house at any time and take things as they found them [in the month before s/he died]?

0. None 1. 1-5 2. 6+ [ ]  
 11

\*(SI7) How many friends did S have whom s/he could visit at any time, without waiting for an invitation [in the month before s/he died]?

0. None 1. 1-5 2. 6+ [ ]  
 12

\*(SI8) Overall, would you say that [at the time of his/her death] S belonged to a close circle of friends - a group of people who all kept in close touch with each other - or not?

0. No 1. Yes - qualified 2. Yes - definitely [ ]  
 13

\*(SI9) Among S's family and friends, how many people were there who were immediately available to S and whom S could talk to frankly [in the month before his/her death]?

0. None      1. 1-5      2. 6+

[ ]  
14

(If > 1 person)

Who is this mainly?

(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(SI10) If something unpleasant or irritating happened and S got upset or angry about it, was there someone S could go to who wasn't involved and tell them just how s/he felt [in the month before s/he died]?

PROMPT: How many?

0. No      1. 1-2      2. 3+

[ ]  
15

\*(SI11) How many people dependend on S particularly for help or advice in everyday life [in the month before s/he died]?

0. None      1. 1-2      2. 3+

[ ]  
16

\*(SI12) Were there any (other) people outside S's home who really appreciated what s/he was doing for them [in the month before s/he died]?

PROMPT: How many?

0. None      1. 1-2      2. 3+

[ ]  
17

\*(SI13) Did people tell S that s/he was good at doing things - at home, at work or elsewhere [in the month before s/he died]?

PROMPT: How many?

0. None      1. 1-2      2. 3+

[ ]  
18

\*(SI14) Did S have people around him/her from whom s/he could easily ask small favours - e.g. borrow things [in the month before s/he died]?

PROMPT: How many?

0. None      1. 1-2      2. 3+

[ ]  
19

\*(SI15) (Apart from people at home) were there people S could turn to in times of difficulties - someone s/he could see fairly easily, whom s/he could trust and who could be expected to give real help in times of trouble [in the month before s/he died]?

PROMPT: How many?

0. None      1. 1-2      2. 3+

[ ]  
20



\*(SI16) Did S have noticeably less contact with other people before s/he died compared to earlier in his/her life?

1. More contact
2. No change
3. Less contact

[ ]  
21

(If 'less contact')

Can you date exactly when the change began?

Date \_\_\_\_\_

How long before death? \_\_\_\_\_ years \_\_\_\_\_ months [ ][ ][ ][ ]  
\_\_\_\_\_ weeks \_\_\_\_\_ days [ ][ ][ ][ ]  
(N.A. = 9999) 22 23 24 25  
26 27 28 29

Did it happen suddenly or gradually?

1. Sudden/abrupt change
2. Gradual change

[ ]  
30

(If evidence of psychiatric symptomatology or change in mental state which has been dated)

Did this change in S's contact with others occur before or after the start of his/her illness?

1. Change in mental state and change in social contact at approximately same time
2. Change in mental state precedes change in social contact
3. Change in social contact precedes change in mental state

[ ]  
31

Do you have any idea why S had less contact with people just before his/her death than s/he used to?

PROBE for all the reasons listed below.

CODE all reasons that apply 0. No 1. Yes

_____ Other(s) died	[ ] 32
_____ Other(s) moved away	[ ] 33
_____ S moved away	[ ] 34
_____ Other(s) fell out with S	[ ] 35
_____ S fell out with others	[ ] 36
_____ Other (specify)	[ ] 37



AVAILABILITY OF ATTACHMENTS

Now I would like you to think about everyone to whom S was close.

- \*(A1) Considering the people S lived with, and his/her family and friends, who ABOVE ALL would you say was closest to fondest of, most attached to?

(FILL IN NAME ON ATTACHMENT TABLE) Who next? Who next?  
(FILL IN ALL NAMES IN RANK ORDER ON ATTACHMENT TABLE)

- \*(A2) At the time of his/her death, did S have a relationship with someone that was thought (by you/others) to be secure and lasting?

0. No 1. Yes 2. Yes - definitely [ ]  
39

(IF YES) Who?  
(FILL IN ONE NAME ON ATTACHMENT TABLE)

- \*(A3) At the time of his/her death, was there someone very important to S with whom s/he was no longer in close touch?

0. No 1. Yes [ ]  
40

(IF YES) Who?  
(FILL IN ONE NAME ON ATTACHMENT TABLE)

When did this happen?

_____	weeks before S's death (< 1 week code 01)	[ ] [ ]	41,42
_____	months " " "	[ ] [ ]	43,44
_____	years " " "	[ ] [ ]	45,46

- \*(A4) Has anyone else close to S died in the last few years?

( 0. No 1. Yes [ ]  
47

(IF YES) Who?  
(FILL IN ONE NAME ON ATTACHMENT TABLE)

When did this happen?

_____	weeks before S's death (< 1 week code 01)	[ ] [ ]	48,49
_____	months " " "	[ ] [ ]	50,51
_____	years " " "	[ ] [ ]	52,53

- \*(A5) At the time of S's death, was there anyone who knew him/her very well as a person?

PROMPT: Friends as well as family

0. Nobody 1. Yes - qualified 2. Yes - definitely [ ]  
54

(IF YES) Who?  
(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(A6) At the time of S's death was there any particular person S felt s/he could lean on?

0. Nobody 1. Yes - but didn't need any more 2. Yes [ ]  
55

(IF YES) Who?

(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(A7) At the time of S's death was there any one particular person whom S felt was very close to him/her?

0. Nobody 1. Not sure 2. Yes [ ]  
56

(IF YES) Who?

(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(A8) [In the month before S's death] When S was happy, was there any particular person s/he could share this feeling with?  
PROMPT: Someone who could be happy simply because S was happy?

0. Nobody 1. Yes 9. S never happy [ ]  
57

(IF YES) Who?

(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(A9) At the time of S's death, did s/he have someone s/he could share his/her most private feelings with or not?

0. Nobody 1. Yes [ ]  
58

(IF YES) Who?

(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(A10) Were there ever times when S was comforted by being held in someone else's arms or not [in the month before his/her death]?

0. No 1. Yes [ ]  
59

(IF YES) Who?

(FILL IN ONE NAME ON ATTACHMENT TABLE)

\*(All) Did S have fewer close relationships with other people before s/he died than in earlier period of his/her life?

(CHECK all persons mentioned in this section)  
(CODE ATTACHMENT TABLE)

1. More close relationships
2. No change
3. Fewer close relationships

[ ]  
60

(If 'Fewer close relationships')

Can you date exactly when the change began?

Date \_\_\_\_\_

How long before death? \_\_\_\_\_ years \_\_\_\_\_ months

[ ][ ][ ][ ]

61 62 63 64

\_\_\_\_\_ weeks \_\_\_\_\_ days

[ ][ ][ ][ ]

(N.A. = 9999)

65 66 67 68

Did it happen suddenly or gradually?

1. Sudden/abrupt change
2. Gradual change

[ ]  
69

(If evidence of psychiatric symptomatology or change in mental state which has been dated)

Did this change in S's close relationships with other occur before or after the start of his/her illness?

1. Change in mental state and change in close relationships at approximately the same time
2. Change in mental state precedes change in close relationships
3. Change in close relationships precedes change in mental state

[ ]  
70

Do you have any idea why S had fewer close relationships with others before his/her death than s/he used to?  
PROBE for all the reasons listed below.

Code all reasons that apply      Ø. No      1. Yes

- \_\_\_\_\_ Other(s) dead
- \_\_\_\_\_ Other(s) moved away
- \_\_\_\_\_ S moved away
- \_\_\_\_\_ Other(s) fell out with S
- \_\_\_\_\_ S fell out with other(s)
- \_\_\_\_\_ Other (specify)

[ ] 71  
[ ] 72  
[ ] 73  
[ ] 74  
[ ] 75  
[ ] 76

\*(A12) In the month before s/he died, was S having any rows or conflict with anyone close to him/her?

0. No 1-6. Code N 7. 7 or more

[ ]  
77

(IF YES) Who?

(FILL IN UP TO 3 NAMES ON ATTACHMENT TABLE)

(FOR EACH PERSON) How serious or severe was this row/conflict?

(CODE MILD, MODERATE OR SEVERE ON ATTACHMENT TABLE)

Lifetime close social attachments

0. None 1. Only as a child 2. One only as an adult  
3. More than one as an adult

[ ]  
78

### Interview Schedule for Social Interaction — Attachment Table

Fill in this information for each person mentioned in S19, A1-10

[illegible][illegible]

CONFIDANTS

\* Suppose there had been some crisis or emergency and S needed to talk things over with somebody. Who would s/he have turned to just to share his/her worries with?

\* Is there anybody else s/he could turn to?

(GO THROUGH FOLLOWING QUESTIONS FOR UP TO THREE CONFIDANTS)

Who?

Best 2nd 3rd  
confidant confidant confidant

- |                           |     |     |     |
|---------------------------|-----|-----|-----|
| 0. No confidant           | [ ] | [ ] | [ ] |
| 1. Spouse                 | 6   | 7   | 8   |
| 2. Parent                 |     |     |     |
| 3. Sibling                |     |     |     |
| 4. Child                  |     |     |     |
| 5. Friend (not neighbour) |     |     |     |
| 6. Neighbours             |     |     |     |
| 7. Cohabitee              |     |     |     |
| 8. Other relative         |     |     |     |
| 9. Other person           |     |     |     |

Is (confidant) the informant?

- |        |     |     |     |
|--------|-----|-----|-----|
| 0. No  | [ ] | [ ] | [ ] |
| 1. Yes | 9   | 10  | 11  |

Could S have told (confidant) absolutely everything?

- |                                      |     |     |     |
|--------------------------------------|-----|-----|-----|
| 0. Could not tell everything         | [ ] | [ ] | [ ] |
| 1. Could but did not tell everything | 12  | 13  | 14  |
| 2. Could tell everything             |     |     |     |

Would (confidant) always have been easy to reach (available) any time S needed him/her?

- |  |           |           |           |
|--|-----------|-----------|-----------|
| 1. Over 50 miles away - not contactable by 'phone  | [ ]<br>15 | [ ]<br>16 | [ ]<br>17 |
| 2. As 1, but had 'phone  |           |           |           |
| 3. Easily contacted but not guaranteed to attend to S immediately <u>OR</u> not easily contactable a large part of time                        |           |           |           |
| 4. Easily available part of each day but <u>EITHER</u> difficult to contact <u>OR</u> could not be present within the hour for rest of the day |           |           |           |
| 5. Available virtually any time, can be contacted quickly and be present within the hour   |           |           |           |

Do you think that (confidant) told S all his/her worries and troubles?

- |   |     |     |     |
|---|-----|-----|-----|
| 1. Did not tell S all troubles          | [ ] | [ ] | [ ] |
| 2. Probably did not tell S all troubles | 18  | 19  | 20  |
| 3. Told S all his/her troubles          |     |     |     |

How often did S contact (confidant) in the month before his/her death?

- |   |     |     |     |
|---|-----|-----|-----|
| 0 No contact                              | [ ] | [ ] | [ ] |
| 1 Less than once/week                     | 21  | 22  | 23  |
| 2 Once/week                               |     |     |     |
| 3 More than once/week but less than daily |     |     |     |
| 4 Daily                                   |     |     |     |
| 5 Living with S                           |     |     |     |



COMMUNITY ACTIVITIES

\*Did S participate in any clubs or societies (unrelated to his/her work) during the last year of his/her life?

- Ø. Did not participate  
1. Occasional attender  
2. Regular attender  
3. Committee member or organiser

[ ]  
25

\*Did S participate in groups or associations related to his/her work during the last year of his/her life?

- Ø. Did not participate  
1. Occasional attender  
2. Regular attender  
3. Committee member or organiser

[ ]  
26

\*Did S participate in any other activities which brought him/her into contact with others during the last year of his/her life?

- Ø. No  
1. Yes

[ ]  
27

Do you think there were important SOCIAL reasons why S participated in the club (etc.)?

- Ø. No  
1. Yes (specify) \_\_\_\_\_

9. Did not participate

[ ]  
28

Did S mix with any people from the club OUTSIDE the club?

- Ø. No  
1. Yes (specify) \_\_\_\_\_

9. Did not participate

[ ]  
29

How well did S get on with other people at the club (etc.)?

(Probe for conflict, antagonism, arguments, no mixing)

1. Good relationships - no undue friction  
2. Some good relationships, but some areas of friction  
3. Mainly antagonistic or nonexistent relationships  
9. Did not participate

[ ]  
30



- yes (specify) \_\_\_\_\_

31

— 2 —

- [ ]  
32

22

$\begin{bmatrix} & & \\ & 36 & \\ & & \end{bmatrix}$   
 $\begin{bmatrix} & & \\ & 40 & \\ & & \end{bmatrix}$

- [ ]  
41

- [ ]  
42

POLITICAL ACTIVITIES

Did S vote regularly at national elections?

0. No

1. Yes

9. Below voting age

[ ]  
44

Did S vote at last national election (1983)?

0. No

1. Yes

9. Below voting age

[ ]  
45

Did S vote regularly at local elections?

0. No

1. Yes

9. Below voting age

[ ]  
46

Did S vote at last local election?

0. No

1. Yes

9. Below voting age

[ ]  
47

Was S a member of a political party  
(during last year of life)?

0. No

1. Yes (specify) \_\_\_\_\_

[ ]  
48

Did S attend party meetings  
(during last year of life)?

0. No

1. Irregularly

2. Regularly

9. Not party member

[ ]  
49

Did S campaign for his/her party at the  
time of the last local/national elections?

0. No

1. Yes

9. Not party member

[ ]  
50

Did S do a regular job or have a  
position in the local party branch  
(during last year of life)?

0. No

1. Yes (specify) \_\_\_\_\_

9. Not party member

[ ]  
51

Did S belong to any (other) political  
organisation(s) (during last year of life)?  
(PROMPT: e.g. CND, Greenpeace, SCCL)

Ø. No

1. Yes (specify) \_\_\_\_\_

[ ]

52

Did S attend meetings of [organisation(s)]  
(during last year of life)?

Ø. No

1. Irregularly

2. Regularly

9. Not organisation member

[ ]

53

Did S do a regular job or have a position -  
in [organisation(s)] (during last year of life)?

Ø. No

1. Yes (specify) \_\_\_\_\_

.

9. Not party/organisation member

[ ]

54

Did S mix with people from [party/organisation]  
OUTSIDE regular meetings?

Ø. No

1. Yes (specify) \_\_\_\_\_

.

9. Did not belong

[ ]

55

How well did S get on with other people  
in [party/organisation]?

1. Good relationship - no undue friction

2. Some good relationships, but some areas  
of friction

3. Mainly antagonistic or nonexistent relationships

9. Not party/organisation member

[ ]

56

Was there any change in the extent to which S  
participated in [party/organisation] before  
she/he died (compared to an earlier period in  
in his/her life)?

1. More participation

2. No change

3. Less participation

9. No change - no participation

[ ]

57

Can you date exactly when the change began?

Date \_\_\_\_\_

How long before death?

_____ years	_____ months	[ ] [ ] [ ] [ ]
		58 59 60 61
_____ weeks	_____ days	[ ] [ ] [ ] [ ]
(N.A. = 9999)		62 63 64 65

Did it happen suddenly or gradually?

1. Sudden/abrupt change
2. Gradual change
9. N.A.

[ ]  
66

(If evidence of psychiatric symptomatology or change in mental state which has been dated)

Did this change in S's participation in [party/organisation] occur before or after the start of his/her illness?

1. Change in mental state and change in participation at approximately the same time
2. Change in mental state precedes change in participation
3. Change in participation precedes change in mental state
9. N.A.

[ ]  
67

TRADE UNION ACTIVITIES

Was S in paid employment during the last year of his/her life?

0. No  
1. Yes

[ ]  
6

Did S belong to a Trade Union [during the last year of his/her life]?

0. No - never  
1. No - but yes in past  
2. Yes

[ ]  
7

Did S attend Trade Union meetings [during the last year of his/her life]?

0. No  
1. Irregularly  
2. Regularly  
9. Did not belong to T.U.

[ ]  
8

Did S vote in Trade Union elections [during the last year of his/her life]?

0. No  
1. Yes  
9. Did not belong to T.U.

[ ]  
9

Did S play an active role in his/her Trade Union [during the last year of his/her life]?

0. No  
1. Yes (specify) \_\_\_\_\_  
9. Did not belong to T.U.

[ ]  
10

Did S have any official position in his/her Trade Union [during the last year of his/her life]?

0. No  
1. Yes (specify) \_\_\_\_\_  
9. Did not belong to T.U.

[ ]  
11

Do you think there were important SOCIAL reasons why S belonged to a Trade Union?

0. No

1. Yes (specify) \_\_\_\_\_

9. Did not belong to T.U.

[ ]  
12

Did S mix with people from T.U. OUTSIDE the branch meetings?

0. No

1. Yes (specify) \_\_\_\_\_

9. Did not belong to T.U.

[ ]  
13

How well did S get on with other people in T.U.?

(PROBE for conflict, antagonism, arguments, no mixing)

1. Good relationships - no undue friction
2. Some good relationships, but some areas of friction
3. Mainly antagonistic or nonexistent relationships
9. Did not belong to T.U.

[ ]  
14

Was there any change in the extent to which S participated in his/her T.U. before she/he died (compared to an earlier period in his/her life)?

1. More participation
2. No change
3. Less participation
9. No change - no participation

[ ]  
15

(If 'less participation')

Can you date exactly when the change began?

Date \_\_\_\_\_

How long before death? \_\_\_\_\_ years \_\_\_\_\_ months

\_\_\_\_\_ weeks \_\_\_\_\_ days

(N.A. = 9999)

[ ][ ][ ][ ]  
16 17 18 19  
[ ][ ][ ][ ]  
20 21 22 23

Did it happen suddenly or gradually?

1. Sudden/abrupt change
2. Gradual change
9. N.A.

[ ]  
24

(If evidence of psychiatric symptomatology or change in mental state which has been dated)

Did this change in S's participation in his/her T.U. occur before or after the start of his/her illness?

- 1. Change in mental state and change in participation at approximately the same time
- 2. Change in mental state precedes change in participation
- 3. Change in participation precedes change in mental state
- 9. N.A.

[ ]  
25

RELIGIOUS BEHAVIOUR

Baptismal or nominal religion

1. Church of Scotland
2. Church of England
3. Other Protestant
4. Roman Catholic
5. Other (specify) \_\_\_\_\_
6. None

[ ]  
27

Religious denomination over past year as judged by attendance or other religious behaviour

1. Church of Scotland
2. Church of England
3. Other Protestant
4. Roman Catholic
5. Other (specify) \_\_\_\_\_
6. None

[ ]  
28

Member of Church (during last year of life)?

0. No
1. Yes (specify) \_\_\_\_\_

[ ]  
29

Church attendance (during last year of life)

1. Weekly or more often
2. Monthly or more often
3. Less than monthly
4. Never

[ ]  
30

(If S attended church)

What was/were the major reason(s) why S attended church?

To pray                      0. No                      1. Yes

[ ]  
31

For social contact  
with others                      0. No                      1. Yes

[ ]  
32

Socially expected  
behaviour                      0. No                      1. Yes

[ ]  
33

Renew faith in God                      0. No                      1. Yes

[ ]  
34

Resolve religious  
doubts                      0. No                      1. Yes

[ ]  
35

Confession                      0. No                      1. Yes

[ ]  
36

(9. N/A)



Participation in social activities of Church during past year

1. Regular attender at one or more church social group
2. Irregular/occasional attender
3. Non-attender
9. Did not belong to a church

[ ]  
37

Contact with minister (apart from services) during past year

0. Never
1. Once
2. Twice
3. > 3 times
9. Did not belong to church

[ ]  
38

Participation in any ritual activities in church during past year

0. No
1. Yes (specify) \_\_\_\_\_

9. Did not belong to church \_\_\_\_\_

[ ]  
39

Religious practices and beliefs (all Ss)

- Did S say private prayers (prayers at home)?

0. Never      1. Less than daily      2. Daily

[ ]  
40

- Did S believe in God?

0. No      1. Yes

[ ]  
41

- Had S ever had a religious or mystical experience?

0. No      1. Yes

[ ]  
42

- Did S believe in an afterlife?

0. No      1. Yes

[ ]  
43

(If no) - What did S imagine would happen after death?

How important to S was religion in his/her everyday life?

1. The most important concern
2. Fairly important
3. Rather unimportant
4. Irrelevant

[ ]  
44

(If 'most' or 'fairly' important)

- In what way? (specify) \_\_\_\_\_

Was there a change in S's religious behaviour or beliefs in the period before death compared to earlier in his/her life?

1. More participation/commitment
2. No change
3. Less participation/commitment

[ ]  
45

(If 'Less')

Can you date exactly when the change began?

Date \_\_\_\_\_

How long before death?

_____ years	_____ months	[ ] [ ] [ ] [ ]
		46 47 48 49
_____ weeks	_____ days	[ ] [ ] [ ] [ ]
(N.A. = 9999)		50 51 52 53

Did it happen suddenly or gradually?

1. Sudden/abrupt change
2. Gradual change

[ ]  
54

(If evidence of psychiatric symptomatology or change in mental state - which has been dated)

Did this change in S's religious behaviour (etc.) occur before or after the start of his/her illness?

1. Change in mental state and change in religious behaviour (etc.) at approximately the same time
2. Change in mental state precedes change in religious behaviour (etc.)
3. Change in religious behaviour (etc.) precedes change in mental state

[ ]  
55

CONTACT WITH SUICIDAL BEHAVIOUR

As far as you know, had S ever known\* anyone who deliberately harmed himself/herself, or attempted suicide, or actually took his/her life deliberately?

[\* EXCLUDE SUICIDAL BEHAVIOUR BY PERSONS WHOM S HAS NEVER MET, EXCEPT FOR BLOOD RELATIVES]

If 'yes', gather following information for each contact (C).

1. PARASUICIDE OR SUICIDE

1. Parasuicide
2. Suicide

2. WAS C PERSONALLY KNOWN TO S? (at least one face-to-face meeting)

- Ø. No [blood relative only]
1. Yes

3. RELATIONSHIP OF C TO S

- Ø1. Wife Ø2. Husband Ø3. Cohabitee Ø4. Son
- Ø5. Daughter Ø6. Mother Ø7. Father Ø8. Sister
- Ø9. Brother Ø10. Grandmother Ø11. Grandfather
- Ø12. Mother-in-law Ø13. Father-in-law Ø14. Son-in-law
- Ø15. Daughter-in-law Ø16. Fiancee Ø17. Other relative
- (.....)
- Ø18 = Other person (.....)

4. DID CONTACT OCCUR IN CONNECTION WITH S's WORK?

0. No

1. Yes (specify) .....

.....

5. DID CONTACT OCCUR IN RPTC?

0. No

1. Yes

6. AMOUNT OF CONTACT BETWEEN S AND C (around time of C's act)

1. Daily

2. Weekly

3. Monthly

4. Less than monthly

7. LAPSE OF TIME BETWEEN EVENT AND S's DEATH

0. < 1 day

1. < 1 week

2. < 1 month

3. < 3 months

4. < 12 months

5. < 24 months

6. < 60 months

7. > 60 months

8. LAPSE OF TIME BETWEEN EVENT AND S's KNOWLEDGE OF IT

- 0. < 1 day
- 1. < 1 week
- 2. < 1 month
- 3. < 3 months
- 4. < 12 months
- 5. < 24 months
- 6. < 60 months
- 7. > 60 months

9. HOW DID S HEAR ABOUT C's ACT? ANY PERSONAL INVOLVEMENT?

- 1. Physically present at time of act
- 2. In telephone contact at time of act
- 3. Advised immediately before act
- 4. Found C immediately after act
- 5. Advised immediately after act
- 6. Told subsequently by C
- 7. Told subsequently by third party

10. METHOD

- 1. Poisoning
- 2. Gasses
- 3. Hanging
- 4. Drowning
- 5. Cutting
- 6. Jumping
- 7. Other (specify) .....
- 8. NK

11. S's EMOTIONAL REACTION TO (NEWS OF) C's ACT

- 0. None - no visible distress
- 1. Slight - distress lasting less than a day or of low intensity
- 2. Moderate - distress lasting less than a week or of medium intensity
- 3. Severe - distress lasting over a week or of incapacitating intensity

CONTACT WITH SUICIDAL BEHAVIOUR

Contact	PS/S?	Personally known?	Relationship?	S's Work?	RPTC?	Amount of contact?	Time lapse to death	Time lapse to knowledge	Personal involvement?	Method?	Reaction?
1	[ ] 6	[ ] 7	[ ] 8	[ ] 9	[ ] 10	[ ] 11	[ ] 12	[ ] 13	[ ] 14	[ ] 15	[ ] 16
2	[ ] 17	[ ] 18	[ ] 19	[ ] 20	[ ] 21	[ ] 22	[ ] 23	[ ] 24	[ ] 25	[ ] 26	[ ] 27
3	[ ] 28	[ ] 29	[ ] 30	[ ] 31	[ ] 32	[ ] 33	[ ] 34	[ ] 35	[ ] 36	[ ] 37	[ ] 38
4	[ ] 39	[ ] 40	[ ] 41	[ ] 42	[ ] 43	[ ] 44	[ ] 45	[ ] 46	[ ] 47	[ ] 48	[ ] 49
5	[ ] 50	[ ] 51	[ ] 52	[ ] 53	[ ] 54	[ ] 55	[ ] 56	[ ] 57	[ ] 58	[ ] 59	[ ] 60
6	[ ] 61	[ ] 62	[ ] 63	[ ] 64	[ ] 65	[ ] 66	[ ] 67	[ ] 68	[ ] 69	[ ] 70	[ ] 71

## **APPENDIX C**

**Schedule for Affective Disorders and Schizophrenia  
- Lifetime Version (SADS-L)**

**Interview for Life Events and Scoring Sheet**

**Personality Assessment Schedule and adapted  
questionnaire**

If criteria for any diagnostic category are fulfilled, record the following:

Diagnosis present at the time of, or  
immediately prior to the death?

- 1 NO
- 2 Probable
- 3 Certain
- 4 N/A

Duration of this episode?  
(in weeks)

Specify \_\_\_\_\_

Age at first episode (years)?

Specify \_\_\_\_\_

Diagnosis of previous episode  
(Informant)

- 1 NO
- 2 Probable
- 3 Certain
- 4 N/A

Was this criteria?

- 1 NO
- 2 Probable
- 3 Certain
- 4 N/A



If criteria for any diagnostic category are fulfilled, record the following :

Diagnosis present at the time of, or immediately prior to the death?

- 1 No [ ]  
2 Probable  
3 Certain  
8 N/K

Duration of this episode?  
(in weeks)

[ ][ ]

Specify \_\_\_\_\_

Age at first episode (years)?

[ ][ ]

Specify \_\_\_\_\_

Diagnosis of previous episodes?

- 1 No [ ]  
2 Probable  
3 Certain  
8 N/K

Ever met criteria?

- 1 No [ ]  
2 Probable  
3 Certain  
8 N/K

## MANIC SYNDROME

3 criteria required :- *none*

1. Did he/she ever had a period that lasted at least a week (or in which they were hospitalised) when they felt extremely good or high, - clearly different from their normal self?

Did you or other family or friends consider that this was more than just "feeling good".

Were there any periods when he/she felt very irritable and easily annoyed?

- |   |  |
|---|--|
| 0 | No information or not sure   |
| 1 | Never had a period lasting at least 1 week (or was hospitalised) when the predominant mood was either elevated or irritable. |
| 2 | Never had a period when predominant mood was elevated but had at least 1 period when he was irritable.                       |
| 3 | Had at least 1 period when predominant mood was elevated (with or without irritability)                                      |

→ Skip to Episodes of Major Depressive Syndrome

2. During the most severe period :

(2 symptoms required)

Was he/she more active than usual - either socially, at work, sexually or physically restless.

	No info.	No	Yes
X		1	2

Was he/she more talkative than usual or felt a pressure to keep on talking?

X		1	2
---	--	---	---

Did his/her thoughts race or did he/she talk so fast that it was difficult for people to follow what he/she was saying?

X		1	2
---	--	---	---

Did he/she feel he/she was a very important person, had special powers, talents or abilities (i.e. grandiose)

X		1	2
---	--	---	---

Did he/she need less sleep than usual?

X		1	2
---	--	---	---

Did he/she have trouble concentrating on what was going on because his/her attention kept jumping to unimportant things around him/her? (i.e. distractable)

X		1	2
---	--	---	---

3. Was he/she ever hospitalised for such behaviour?

Was it ever almost impossible to hold a conversation with him/her because they were so excited?

Did this behaviour ever cause trouble either at home, at work, or in the course of other activities?

4. Was he/she ill in this way in the period that immediately preceded the death?

0	No information
1	No
2	Yes

→ Skip to Episodes of Major Depressive Disorder

1	No
2	Yes

0	No information
1	No
2	Yes

→ Skip to All Effective (See Original Protocol)

5. During the most severe period was he/she bothered by:

(If symptoms occurred)

- poor appetite or weight loss or increased appetite or weight gain

- trouble sleeping or sleeping too much

- loss of energy, easily fatigued or feeling tired

- loss of interest or pleasure in usual activities or sex

- feeling guilty or worthless or having

- trouble concentrating, thinking or making decisions

- thinking about death or suicide (did he/she attempt suicide?)

No info.      No      Yes

0      1      2

0      1      2

0      1      2

0      1      2

0      1      2

0      1      2

0      1      2

## MAJOR DEPRESSIVE SYNDROME

### 3 criteria required

- (1) Did he/she ever have a period that lasted at least a week during which he/she was bothered by feeling depressed, sad, blue, hopeless or down in the dumps. That he/she didn't care anymore or didn't enjoy anything?

What about feeling irritable or easily annoyed?

2. During this time did he/she seek help from anyone, for instance a doctor, minister or friend?

Did anyone suggest that he/she seek help

Did he/she act differently to either people or family?

3. During the most severe period was he/she bothered by :

(3 symptoms required)

- poor appetite or weight loss or increased appetite or weight loss
- trouble sleeping or sleeping too much
- loss of energy, easily fatigued or feeling tired
- loss of interest or pleasure in usual activities or sex
- feeling guilty or down on yourself
- trouble concentrating, thinking or making decisions
- thinking about death or suicide (did he/she attempt suicide)

0 No information or not sure or part of a grief reaction.  
1 No  
2 Yes

0 No information  
1 No  
2 Yes

→ Skip to Non Affective Non Organic Psychosis

	No info.	No.	Yes
- poor appetite or weight loss or increased appetite or weight loss	X	1	2
- trouble sleeping or sleeping too much	X	1	2
- loss of energy, easily fatigued or feeling tired	X	1	2
- loss of interest or pleasure in usual activities or sex	X	1	2
- feeling guilty or down on yourself	X	1	2
- trouble concentrating, thinking or making decisions	X	1	2
- thinking about death or suicide (did he/she attempt suicide)	X	1	2

- being unable to sit still - on the  
move or slowed down, difficulty  
moving

X 1 2

How many episodes like this did he/she  
have?

[ ] [ ]

4. Was he/she ill in this way in the  
period that immediately preceded the  
death?

1 No

2 Yes

TO DETERMINE WHETHER ANY EPISODE OF MAJOR DEPRESSIVE SYNDROME MET THE  
CRITERIA FOR SCHIZO-AFFECTIVE DISORDER, DEPRESSED TYPE

Determine if the subject has had delusion, hallucinations or marked formal  
thought disorder during any of the episodes or Major Depressive Syndrome.

NOTES

Q. When he/she was depressed did he/she  
have any beliefs or ideas which were  
later found out to be not true - for  
instance, like people out to get him/  
her, talking behind his/her back, or  
that his/her thoughts or movements  
were being controlled.

Did he/she hear voices or other sounds  
that other people couldn't hear?

Did he/she have visions or see things  
that were not visible to other people?

What about strange smells or strange  
feelings in his/her body?

Did people ever have difficulty  
understanding what he/she was talking  
about?

# OTHER CHARACTERISTICS OF MAJOR DEPRESSIVE SYNDROME

	Major Depressive Disorder	Schizo-affective Disorder
How old was he/she at first episode?	_____	_____
When was the last episode (age)?	_____	_____
How long did the longest episode last?	_____	_____
Was he/she hospitalised?	Yes	Yes
Did he/she receive ECT?	Yes	Yes
Did he/she receive medication?	Yes	Yes
Period of hypomania either before or after the episode (not sufficient to meet criterion for Manic Syndrome)	Yes	Yes
Delusions	Yes	Yes
Hallucinations	Yes	Yes
Unable to feed, dress, keep clean, go to work?	Yes	Yes
Was there a suicidal attempt	Yes	Yes
Was she pregnant or had she just given birth (within 2 months)	Yes	Yes
Associated with menopause (within 3 years)	Yes	Yes
Was he/she on any kind of treatment?	Yes	Yes
Did all the episodes follow some serious physical illness, e.g. thyrotoxicosis?	Yes	Yes

# NON-AFFECTIVE NON-ORGANIC PSYCHOSIS

	No info.	No	Yes
Have there been any times other than when he/she was (depressed, manic) that he/she was sick, emotionally upset, in hospital, heard voices, had strange experiences, felt people were against him/her?	X	1	2
Has there been a time when he/she :			
- heard voices?	X	1	2
- had visions or saw things that were not visible to other people?	X	1	2
- had strange feelings in his/her body?	X	1	2
- had beliefs or ideas which were later found out not to be true, e.g. people out to get him/her?	X	1	2
- Strange or bizarre behaviour?	X	1	2
- People had difficulty understanding him/her because his/her speech was mixed up?	X	1	2
- Had he/she been drinking a lot?	X	1	2
- Had he/she taken any drugs, e.g. LSD?	X	1	2
- Was he/she physically ill at the time?	X	1	2

— If there is no evidence of Non Affective Non Organic Psychosis (i.e. delusions, hallucinations, formal thought disorder or grossly bizarre behaviour)

→ Skip to Alcohol Abuse



# DETERMINING WHETHER ANY EPISODE MET THE TWO CRITERIA FOR SCHIZOPHRENIA

An episode of Non Affective Non Organic Psychosis is diagnosed as either Schizophrenia or Unspecified Functional Psychosis.

## 1. One of the following symptoms :

No info.      No      Yes

Did he/she ever feel that his/her thoughts were broadcast so that other people knew what he/she was thinking, or that thoughts were put into his/her head that were not his/her own or that thoughts were taken away from him/her by some external force?

X      1      2

Did he/she ever have the feeling that he/she was under the control of some force or power other than himself/herself, as if he/she was a robot or that he/she was forced to make movements or say things without wanting to, or think things or have impulses that were not his/her own.

X      1      2

Somatic, grandiose, religious, nihilistic or other delusions without persecutory or jealous content lasting at least 1 week.

X      1      2

Delusions of any type if accompanied by hallucinations of any type for at least 1 week.

X      1      2

Auditory hallucinations in which a voice keeps up a running commentary on the subject's behaviour or thoughts as they occur, or two or more voices converse with each other.

X      1      2

Non affective verbal hallucinations spoken to the subject.

X      1      2

Hallucinations of any type throughout the day for several days or intermittently for at least 1 month.

X      1      2

Definite instances of marked formal thought disorder accompanied by blunted or inappropriate affect, delusions or hallucinations of any type or grossly disorganised behaviour.

X      1      2

## 2. Has the illness in which any of the symptoms listed above have been present lasted at least two weeks?

0      No information or not sure

1      Duration less than 2 weeks

2      Duration more than 2 weeks

## ALCOHOLISM

### 2 criteria required

No Info.      No      Yes

Q. What were his/her drinking habits like?

- |   |   |   |   |
|---|---|---|---|
| - Was there a period in his/her life when you or some other friend or relative thought he/she drank too much? | X | 1 | 2 |
| - Has anyone ever objected to his/her drinking?   | X | 1 | 2 |
| - Has there ever been a time when he/she couldn't stop drinking when they wanted to?                          | X | 1 | 2 |
| - When he/she was drinking how much did they drink?   |   |   |   |

If no history suggestive of alcohol problems skip to Drug Abuse

N.B. Family History - RDC

A + B are required.

A - Problem with drinking not limited to isolated incidents.

B - At least one alcohol related problem in the following areas:-

- 1) Legal problem (e.g. public intoxication, disorderly conduct, traffic offence)
- 2) Health problem (cirrhosis, DT's, blackouts, etc.)
- 3) Marital or family problems
- 4) Work problem or impairment as a housekeeper
- 5) Social problems as a result of alcohol, e.g. fights, loss of friends
- 6) Treatment for alcoholism or attended AA or other agency.

# ADDITIONAL QUESTIONS ON ALCOHOLISM

	No info.	No	Yes
(13) - Did he/she frequently drink before breakfast?	X	1	2
( 5) - Did he/she often miss work, have trouble at work, or be unable to take care of household responsibilities because of drinking?	X	1	2
( 6) - Did he/she ever lose a job because of drinking?	X	1	2
( 1) - Did he/she ever have difficulties with family or friends because of drinking?	X	1	2
( 8) - Has he/she ever been divorced primarily because of drinking?	X	1	2
(10) - Did he/she ever go on benders? (Steady drinking for more than 3 days on at least 3 occasions)	X	1	2
( 4) - Was he/she ever physically violent while drinking? (2 occasions)	X	1	2
( 7) - Traffic offences because of his drinking?	X	1	2
( 9) - Other offences because of drinking?	X	1	2
(11) - Did he/she often have blackouts?	X	1	2
(12) - Morning tremors?	X	1	2
(14) - DT's?	X	1	2
(15) - Hear voices, see things shortly after stopping drinking (alcoholic hallucinations)?	X	1	2
(16) - Seizure or fit after stopping drinking?	X	1	2
(17) - Was he/she ever told they had physical complications of alcoholism?	X	1	2
( 2) - Were there ever arguments at home/in the family about his/her drinking?	X	1	2
( 3) - Had he/she ever been involved in an accident either at home or work which was the result of drinking?	X	1	2

## ALCOHOL - ADDITIONAL QUESTIONS

### Drinking Pattern

What was his/her normal pattern of drinking?

[ ]

- 0 Steady and continuous drinking
- 1 Bouts of drinking with clear periods of abstinence in between (lasting more than a week)
- 2 Bouts of drinking confined to 2 or 3 days (i.e. weekend) followed by abstinence for the rest of the week
- 3 No clear pattern
- 8 N/K
- 9 N/A

Had the pattern of drinking changed in the 3 months prior to the death?

[ ]

- 0 No change
- 1 Change to bouts (weeks)
- 2 Change to bouts (days)
- 3 Change to no pattern
- 8 N/K
- 9 N/A

Drinking pattern before their death?

[ ]

- 0 Not drinking in the 3 months before the death
- 1 Drinking heavily in the week before the death
- 2 Drinking heavily for more than 1 week and less than 2 weeks
- 3 Drinking heavily for more than 2 weeks and less than 4 weeks
- 4 Drinking heavily for more than 4 weeks and less than 3 months
- 5 Drinking heavily for more than 3 months and less than 1 year
- 6 Drinking heavily without any change - more than 1 year
- 8 N/K
- 9 N/A

Tended to drink?

[ ]

- 1 Beer only
- 2 Spirits only
- 3 Wine only
- 4 Combination of the above
- 5 Other substances, e.g. hair spray, etc.
- 8 N/K
- 9 N/A

### Saliency

In the past year had he/she spent more time drinking than they had in the early days? (Refers to early adult life)

[ ]

- 0 No
- 1 Yes
- 8 N/K
- 9 N/A

In the 3 months before his/her death had they regularly missed meals because of drinking?

[ ]

(Score yes if this occurred 2+ times per week for a month or more - does not include missing breakfast)

- 0 No
- 1 Yes
- 8 N/K
- 9 N/A

### Increased Tolerance

Do you think that the amount of alcohol he/she drank had less effect than it used to in the early years of drinking?

[ ]

Do you think that he/she had increased their alcohol consumption because it was not having enough effect?

- 0 Has not experienced increased tolerance
- 1 Has experienced increased tolerance
- 8 N/K
- 9 N/A

### Narrowing of Repertoire

In the 3 months prior to his/her death did he/she drink less on a work day compared to a day off or did he/she drink the same or more?

[ ]

(If unemployed or off sick for work day read week day and for day off read weekend)

- 0 Drinks less on a work day

Drinks same or more on a work day  
(If he/she drinks the same or more on a work day)

- 1 Always the pattern
- 2 Not always the pattern
- 8 N/K
- 9 N/A

Increased Tolerance (Needing more than companions)

[ ]

In a situation where people were drinking socially did he/she feel that others were drinking too slowly and have a drink in between rounds?

- 1 No
- 2 Yes
- 8 N/K
- 9 N/A

Diminished Tolerance

[ ]

In the 3 months before his/her death did you notice that they became intoxicated on an amount of alcohol which previously would have had little effect?

- 1 No
- 2 Yes
- 8 N/K
- 9 N/A

Impaired Control (Getting drunk)

[ ]

Different people mean different things by getting drunk.  
In the past 3 months did he/she regularly get drunk?  
How many times each week?

- 1 No
- 2 Yes, once a week
- 3 Yes, twice a week
- 4 Yes, three times a week
- 5 Yes, 4 or more times per week
- 8 N/K
- 9 N/A

Were they getting drunk more, the same, or less often in the 3 months before their death?

[ ]

- 0 Not getting drunk
- 1 Less often
- 2 The same
- 3 More often
- 8 N/K
- 9 N/A

Had he/she ever drunk till they passed out in a pub, hotel, club or other public place?

[ ]

(Exclude going to sleep in a chair, being put to bed, or events when a child or in experienced drinker)

If yes had this happened in the past 3 months before the death?

- 0 None
- 1 Once
- 2 More than once, less than 10 times
- 3 10 or more times
- 8 N/K
- 9 N/A

Withdrawal (Morning drinking)

In the 3 months before his/her death did they ever have a drink in the morning (within 3 hours of waking)

[ ]

- 0 Not at all
- 1 At least once a week
- 2 Usually every day
- 8 N/K
- 9 N/A



## DRUG ABUSE OR DEPENDENCE

Had he/she ever taken any drug to stay awake, alter mood or get high?

Had he/she ever used marijuana, opiates, LSD or any other drugs?

Had he/she ever wanted to stop taking drugs and couldn't?

0 No information or unclear if present

1 Not at all

2 Clinically insignificant, e.g. occasional use of marijuana, or amphetamines to stay awake

3 Some minor interference with normal functioning or cannot feel good without use of drug

4 Drug use results in important modifications in his life, or often takes an addicting drug, or has withdrawal symptoms

5 Drug use results in major changes in his life or frequently takes an addicting drug (e.g. hospitalised because of drug use)

6 Drug use results in major disruption in his life (e.g. major activities revolve around getting drugs.

Minor Depressive Disorder



## MINOR DEPRESSIVE DISORDER

Non psychotic episodes of illness of at least one week's duration in which the most prominent disturbance is a relatively sustained mood of depression.

### Distinguished from :

- Generalised Anxiety Disorder - Clear predominance of anxious mood
- Labile Personality - Mood lasts for hours or days at a time
- Intermittent Depressive Disorder - Subject depressed for much of the time but without clear-cut episodes. Feels normal some of the time.

If subject has had 2 or more episodes of Major Depressive Syndrome in the past only count if there was a current episode of Minor Depressive Disorder at the time of death.

### 3 criteria required :

1. Did he/she ever have a period that lasted at least a week when he/she was bothered by feeling depressed, sad, blue, hopeless, down in the dumps, or that he/she just didn't care anymore?

0	No information <u>or</u> not sure <u>or</u> simple grief reaction.
1	No
2	Yes

If one previous episode of Major Depressive Disorder - and episode which was not as severe as the previously mentioned illness :

2. - At the time did he/she seek help from someone like a doctor, minister or even a friend?

0	No information <u>or</u> not sure
1	No
2	Yes

→ Skip to Intermittent Depressive Disorder

- Did anyone suggest he/she seek help?
- Did he/she take medication?
- Did he/she act differently either at home or work?

3. During the most severe period of depressed mood was he/she bothered by - (at least 2 required) :

	No info.	No.	Yes
- poor appetite or weight loss increased appetite or weight gain	X	1	2
- trouble sleeping or sleeping too much	X	1	2
- loss of energy, easily fatigued or feeling tired	X	1	2
- loss of interest or pleasure in usual activities or sex	X	1	2
- feelings of guilt or worthlessness	X	1	2
- difficulty concentrating, thinking or making decisions	X	1	2
- thinking about death or suicide (a suicide attempt)	X	1	2
- unable to sit still, had to keep moving, slowed down, difficulty moving	X	1	2
- crying	X	1	2
- thinking about things with a pessimistic outlook	X	1	2
- brooding about unpleasant things that had happened	X	1	2
- feeling inadequate	X	1	2
- feeling resentful, irritable, angry	X	1	2
- needing reassurance or help (demandingness, clinging dependency)	X	1	2
- feeling sorry for himself/herself (self pity)	X	1	2
- physical complaints which didn't seem to be caused by any particular physical illness	X	1	2

If two or more symptoms review for Major Depressive Disorder or Intermittent Disorder Criteria.

4. Was he/she ill in this way in the period that immediately preceded the death?
- 1 No
- 2 Yes

## INTERMITTENT DEPRESSIVE DISORDER

Depressed mood with intermittent periods of normal mood lasting from a few hours, days or weeks which must have been present for the past two years (or for the two years prior to the development of the present episode)

### Four criteria :

1. Was he/she bothered by episodes of feeling depressed or low over the past two years?

0 No information or not sure  
1 No  
2 Yes

2. During the time that he/she felt depressed did he/she often have periods when he/she felt alright or even good that lasted for a few hours, days or weeks.

0 No information or  
1 No  
2 Yes

(N.B. In Minor Depressive Disorder there are clear-cut episodes of sustained depressed mood followed by normal mood of at least 2 months duration)

→ Skip to Panic Disorder

3. When he/she was feeling depressed was he/she also bothered by :

	No info.	No.	Yes
- poor appetite or weight loss increased appetite or weight gain	X	1	2
- trouble sleeping or sleeping too much	X	1	2
- loss of energy, easily fatigued or feeling tired	X	1	2
- loss of interest or pleasure in usual activities or sex	X	1	2
- feelings of guilt or worthlessness	X	1	2
- difficulty concentrating, thinking or making decisions	X	1	2
- thinking about death or suicide (a suicide attempt)	X	1	2
- unable to sit still, had to keep moving,			

slowed down, difficulty moving	X	1	2
- crying	X	1	2
- thinking about things with a pessimistic outlook	X	1	2
- brooding about unpleasant things that had happened	X	1	2
- feeling inadequate	X	1	2
- feeling resentful, irritable, angry	X	1	2
- needing reassurance or help (demandingness, clinging dependency)	X	1	2
- feeling sorry for himself/herself (self pity)	X	1	2
- physical complaints which didn't seem to be caused by any particular physical illness	X	1	2

4. Did he/she seek help from anyone like a doctor, minister or friends

0 No information or not sure

1 No

2 Yes

Skip to Panic Disorder

- or did anyone suggest that he/she seek help

- or did he/she take medication,

- or did he/she act differently with people, family or at work?

5. Was he/she ill in this way in the period that immediately preceded the death?

1 No

2 Yes

PANIC DISORDER

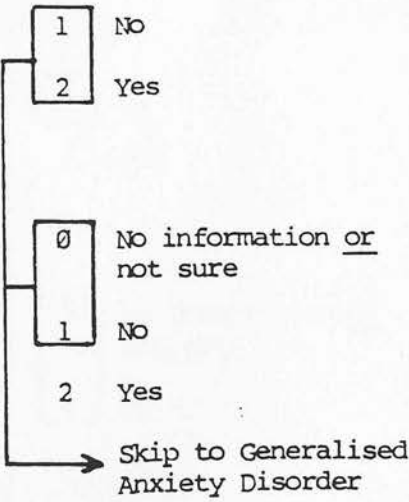
Panic attacks - Circumscribed episodes of intense fear or apprehension with sudden onset not associated with physical exertion or life-threatening situations. Accompanied by two of the following symptoms :

1. Had he/she ever had panic or anxiety attacks and had physical symptoms like :

	No info.	No	Yes
- shortness of breath	X	1	2
- palpitations	X	1	2
- chest pain or discomfort	X	1	2
- choking or smothering feelings	X	1	2
- dizziness or as if things were unreal	X	1	2
- tingling	X	1	2
- sweating	X	1	2
- faintness	X	1	2
- trembling or shaking	X	1	2
- fear of dying, going crazy, or loss of control	X	1	2

Has had intense fear or apprehension and at least two symptoms

2. Did he/she have at least 3 of these (within a 3 weeks period)



3. Was he/she nervous for most of the time (apart from the anxiety attack over the 3 week period)

- ☐ 0 No information or not sure
- ☐ 1 No
- ☐ 2 Yes

4. Did he/she seek help from anyone like a doctor, minister or friend.

- ☐ 0 No information or not sure
- ☐ 1 No
- ☐ 2 Yes

→ Skip to Generalised Anxiety Disorder

Did anyone suggest that he/she seek help?

Did he/she take medication?

Did they affect his/her functioning in any way, socially, in the family, or at work.

## GENERALISED ANXIETY DISORDER

Most prominent disturbance is generalised anxiety without the symptoms of panic Disorder or Major Depressive Disorder. Can be considered as an additional diagnosis if not limited to the 2 months prior to or after these disorders.

### 3 criteria

1. Did he/she ever have a period in which he/she felt anxious or tense most of the time and which lasted at least two weeks.

0	No information <u>or</u> not sure
1	No
2	Yes

→ Skip to Obsessive Compulsive Disorders

2. During the most severe period was he/she bothered by :

	No info.	No	Yes
- difficulty falling asleep	X	1	2
- sweating, blushing, dizziness, palpitations, shortness of breath	X	1	2
- muscular tension or tremors	X	1	2
- worrying much of the time about things that might happen	X	1	2
- fidgeting or being unable to sit still	X	1	2

Had at least 1 of the above symptoms when anxious

1	No
2	Yes

3. Did he/she seek help from anyone like a doctor, minister or friend.

0	No information <u>or</u> not sure
1	No
2	Yes

→ Skip to Obsessive Compulsive Disorder

Did anyone suggest that he/she seek help  
or take medication?

Did the anxious mood affect his/her  
functioning in any way - socially, in the  
family or at work?

Was he/she ever distressed by thoughts that  
he/she was going to die or that someone  
else was going to die? If so, how often?  
Did he/she ever think of suicide or  
commit suicide?

Did he/she ever have any thoughts of  
harm to himself or others? If so, how often?  
Did he/she ever have any thoughts of  
harm to himself or others? If so, how often?

As a result did he/she seek help or take  
medication?

Did they help? In what way? If so, how often?  
Did they help? In what way? If so, how often?

Was he/she ever distressed by thoughts that  
he/she was going to die or that someone  
else was going to die? If so, how often?

0 No information or  
not sure  
1 No  
2 Yes

0 No information or  
not sure  
1 No  
2 Yes

Help to people  
in order



OBSESSIVE COMPULSIVE DISORDER

Compulsions - repetitive behaviour e.g. washing, counting, checking, touching.

Obsessions - repetitive words, ideas or phrases e.g. thoughts of violence, contamination and doubt.

2 criteria

1. Was he/she ever bothered by thoughts that kept returning, that didn't make sense, that he/she couldn't get rid of, or put out of his/her mind?

0	No information <u>or</u> not sure
1	No
2	Yes

Did he/she ever repeat some act over and over again and could not resist repeating it - for instance, like constantly washing hands or counting things or checking?

2. As a result did he/she seek help or take medication?

0	No information <u>or</u> not sure
1	No
2	Yes

Did they impair his/her functioning in any way, either socially, within the family, or at work?

→ Skip to Phobic Disorder

Has met two criteria for Obsessive Compulsive Disorder.

Yes / No

## PHOBIC DISORDER

Persistent and recurring irrational fears of a specific object, activity or situation which the subject tends to avoid.

### 2 criteria

1. Have there been times when he/she was afraid of something or some particular situation, e.g. crowds, certain animals, heights, or being closed in?

Afraid of certain activities like being alone, or certain ways of travelling, e.g. flying?

2. Did this result in he/she seeking, or being referred for help?

☐ No information or not sure

☐ No

☐ Yes

☐ No information or not sure

☐ No

☐ Yes

→ Skip to Other Psychiatric Disorder

OR receiving medication?

Did it impair his/her functioning in any way either socially, with family, or at work?

Has met 2 criteria for Phobic Disorder

No / Yes

OTHER PSYCHIATRIC DISORDER

2 criteria

1. One of the following is required :

- |  |                        |
|--|------------------------|
| - Clinical picture suggests a specific disorder not covered by this instrument, e.g. Anorexia Nervosa, Transsexualism.                         | Yes (specify)<br>_____ |
| - One or more of the disorders covered are suspected but the symptoms are too minimal to meet the criteria.                                    | Yes (specify)<br>_____ |
| - The chronology of inpatient symptom clusters is not known, e.g. Alcoholism and hallucinations, but lack of knowledge about which came first. | Yes (specify)<br>_____ |
| - Inadequate information about phenomenology to establish a specific diagnosis.  | Yes (specify)<br>_____ |
| - A known organic factor is a likely aetiology, e.g. alcohol abuse, amphetamine intoxication fever.  | Yes (specify)<br>_____ |

At least one of the above

- 1 No  
2 Yes

2. The condition was of sufficient severity that it resulted in either seeking or being referred for help.

0 No information or not sure

Taking medication?

- 1 No  
2 Yes

Caused impaired functioning, socially, in the family, or at work?

Has met two criteria for Other Psychiatric Disorder

No / Yes

## BRIQUET'S DISORDER (Somatisation Disorder)

A chronic or recurrent polysymptomatic disorder that begins early in life (prior to the age of 25 years) which is characterised by multiple somatic complaints not explained by known medical illness.

An essential feature is the readiness with which subjects with this syndrome will mention their symptoms.

Often associated with depression and anxiety.

### Describe symptoms

### NOTES

01. Substantial change in work pattern (Includes taking a sabbatical year).
02. Substantial change in work pattern (Includes taking a sabbatical year).
03. Substantial change in work pattern (Includes taking a sabbatical year).
04. Substantial change in work pattern (Includes taking a sabbatical year).
05. Substantial change in work pattern (Includes taking a sabbatical year).
06. Substantial change in work pattern (Includes taking a sabbatical year).
07. Substantial change in work pattern (Includes taking a sabbatical year).
08. Substantial change in work pattern (Includes taking a sabbatical year).
09. Substantial change in work pattern (Includes taking a sabbatical year).
10. Substantial change in work pattern (Includes taking a sabbatical year).

### EDUCATION

11. Substantial change in work pattern (Includes taking a sabbatical year).
12. Substantial change in work pattern (Includes taking a sabbatical year).
13. Substantial change in work pattern (Includes taking a sabbatical year).

In the following text, terms which are underlined have been given specific definitions:

#### WORK

01. Change to a different line of work, e.g., begin work for first time after a substantial time lapse or change to a different line of work with new employer.  
"Substantial time" is a function of previous occupational status; for economically active men and single women: 6 months. For others (including housewives returning to work): 3 years.
02. Substantial change in work conditions, e.g., change to similar work in a new firm or another department, new boss, new set of colleagues, big reorganisation, or substantial change in duties and/or responsibilities. (Includes women who cease permanent employment and return to house-keeping, as well as married women and students who begin a temporary job, including vacation employment).
03. Substantial change in work hours (Includes taking a second job).
04. Onset of troubles or disagreement with boss, supervisor or co-workers where definite sanctions have been taken or arguments flare up which threaten the individual.
05. Promotion - a specific change in grade with concomitant salary change or salary regrading. Not just more responsibility, which should be coded as 02.
06. Demotion - criteria as in 05.
07. Fired or made redundant.
08. Retirement. To be coded even if person takes a part-time job immediately after formal retirement.
09. Unemployed for one month or more (includes those laid off, fired or who quit and are unable to find another job. Do not code if job was intended to be temporary. Include people who give up job and remain voluntarily unemployed).
10. Failure of business (code only for owners and management. For spouse or cohabitee code: as 17 if financial difficulties ensue).

#### EDUCATION

11. Begin full time or half time education (including training programme - but does not include correspondence course if it does not lead to formal qualification, or light night school course).
12. Change in schools.
13. Ceases full time education, e.g., graduate or drop out.

14. Important academic failure.
15. Prepare for or take an important exam (also include important thesis).  
(Do not include routine or term exams unless:-
  - (a) It is the first set of college exams.
  - (b) Continuing at college in jeopardy, in the case of failure. Also include an increase in work load such as data collecting or writing a thesis which takes up most of one's spare time or need to take time off work to cope with study.

#### FINANCIAL

16. Moderate financial difficulties (Include significant new difficulties not sufficient to be called major, in addition to chronic difficulties which have worsened somewhat, e.g., increased expenses). Trouble from bill collectors, defaulting on H.P. commitments which do not represent more than one month's salary, or need to take a second job is an indication of this.
17. Major financial difficulties - much worse than usual, e.g., bankruptcy, very heavy debts or expenses, defaulting on mortgage or heavy H.P. commitments (greater than in 16).
18. Substantial improvement in finances (ceases to draw social security benefits, spouse or patient takes additional job, inheritance, etc.). This relates to unconditional improvements, i.e., not to increase in money available due to the taking out of a loan.  
"Substantial" improvement in finances - where in receipt of a regular sum (e.g., spouse's additional job, social security benefit) it should represent a minimum of 30% of gross weekly income. [i.e. 10% above the current rate of inflation - adjust as necessary].

#### HEALTH

19. Major personal physical illness, injury or accident (Hospitalisation, surgery, or illness requiring one month's absence from work).
20. Major physical or emotional illness of close family or significant relative (parent, spouse, favourite aunt, siblings) not leading to death.  
Illness defined as in 19.
21. Wanted pregnancy (code discovery of) (and also code for father).
22. Unwanted pregnancy (code discovery of) (and also for father).
23. Miscarriage, stillbirth or abortion.
24. Birth of live child (Mother only)
25. Menopause (code only for time of onset or major menstrual change - irregularities, infrequent, etc.)



#### BEREAVEMENT

26. Death of close friend, or significant relative (e.g., favourite aunt, fiancée) Closeness: frequency of contact (physical, by letter or phone of at least every two weeks).
27. Death of close family members (parents, sibling, spouse or cohabitee).
28. Death of own or adopted child.
29. Death of spouse.
30. Loss or robbery of objects of personal or actual value (e.g. wedding ring, jewellery, sentimental object, cherished family pet, money which represents at least one full week's net income).

#### MIGRATION

31. Move within same city.
32. Move to another city (for students, record only initial or terminal move, not vacation).
33. Move to another country.

#### COURTSHIP AND COHABITATION

34. Become engaged.
35. Break engagement.
36. Cease steady dating of three months or more (include termination of established homosexual relationship).
37. Serious argument of difficulties with fiancée or long term steady heterosexual or homosexual partner. (Include major sexual conflicts). Serious argument is defined as a one-way or interactive altercation adversely affecting behaviour of one or both parties for a minimum of five days.

LEGAL (In general, where an offence is followed by Court appearance, it is the sentence that is used for "occurrence").

38. Minor violation not leading to Court appearance, e.g., parking ticket, speeding. (Include students who have disciplinary problems with college authorities).
39. More important violation leading to Court appearance (includes losing driver's licence), includes "suspended sentences" and probation.
40. Jail sentence.
41. Law suit with legal action. Not normal conveyancing procedures unless unusually complicated or drawn out.
42. Legal problems of close family member (an important violation leading to Court appearance, also including loss of driver's licence).

FAMILY AND SOCIAL

43. Birth of child (code only for father).
44. Adoption of child or acceptance of long term foster child (code for both adoptive mother and father).
45. New person, other than 43 or 44 moves into household (e.g., pensioner, relative, lodger who shares living room and meals with family.  
Include children returning from foster homes or short-term foster children coming to live in home). To count as "a person moving into household" one person must be resident for 3 + months, two or more persons for 2 + months.
46. Child engaged.
47. Child married (with approval).
48. Child married (without approval).
49. Child leaves home for other reasons (e.g. college, institution, joins armed forces).
50. Serious arguments or problems with resident family member. (Includes behavioural problems with children. Difficulties not to be coded if they are typical of usual parent-child strife, e.g., mildly rebellious teenager. Code under emotional illness if hospitalisation or institutionalisation results). Behavioural problems with child should be of kind where referral to professional agency is made, or seriously considered or where child displays delinquent behaviour which, if discovered, could lead to legal sanctions.  
Serious argument is defined as a one-way or interactive altercation adversely affecting behaviour of one or both (or all) parties for a minimum of five days for a resident family member.
51. Serious argument with non-resident, close family member (parents, siblings) in-laws, neighbour or close friend.  
"Serious arguments": behaviour affected for 2 + weeks.
52. Marked improvement in relationship with resident or non-resident family member or close friend.  
Applies to (i) a previously cool relationship which returns to normal e.g. return of regular contact with a person where contact was previously avoided or cut to a minimum  
(ii) a casual/non-close relationship which develops within the study period to become a confiding relationship (where everything can be discussed or just one or two things withheld) or the re-establishment of a previously close confiding relationship for other than reasons in (i) above.



FAMILY & SOCIAL (Contd.)

- 53. Separation from significant person (e.g., close friend moves away or professional helping agent who was seen on average at least every 2 weeks).
- 54. Marital problems of close family members (parents, siblings) e.g., child separated from spouse, parents' divorce) onset of serious arguments possibly leading to separation.

MARITAL

- 55. Marriage.
  - 56. Serious arguments with spouse  
"Serious arguments" is defined as a one-way or interactive altercation adversely affecting behaviour of one or both parties for a minimum of five days.
  - 57. Marital separation of one month not due to argument. Do not code if some regular contact maintained or spouse working away but home for weekends, spouse or interviewee in hospital but visited regularly.
  - 58. Marital separation due to argument (Do not code increase in arguments as well).
  - 59. Extramarital affair of partner, also include sporadic infidelity.
  - 60. Begin extramarital affair or engage in sporadic infidelity.
  - 61. Marked improvement in relationship with spouse.
  - 62. Marital reconciliation. Applies to couples who have been living apart of their own volition for at least once month.
  - 63. Divorce (Nisi or Absolute Decree).
- 
64. Other. Include any event (e.g. assaults or acts of violence) which cannot be classified under any of the above categories but may be considered a life event because:
- (1) It is clearly an event of major importance to patient.
  - (2) It resulted in major changes in patient's work, social or family circle, living conditions, health, or status.

# Life Events Coding Form

Name of Patient

Name Code

--	--	--	--	--	--

(1) (2) (3) (4) (5) (6)

Patient Code

--	--	--

(7) (8) (9)

Period Form No.

	0	5
--	---	---

(10) (11) (12)

Treatment  
Code Blank

--	--

(13) (14)

Card No.

1
---

Col.

15

Interviewer No.

--

16

*Yashwan Chaur Kumar*  
*1965 - 1966*  
*10/10/65*

		1 Change work	2 Change in work condtns	3 Change work hours incl. 2nd job	4 Trouble Rows
1st occurrence	( Objective	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	( negative	17	23	29	35
	( impact				
	( Independence	18	24	30	36
	( Occurrence	19	25	31	37
2nd occurrence	( Objective	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	( negative	20	26	32	38
	( impact				
	( Independence	21	27	33	39
	( Occurrence	22	28	34	40

		5 Promotion	6 Demotion	7 Redundant	8 Retirement
1st occurrence	( Objective	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	( negative	41	47	53	59
	( impact				
	( Independence	42	48	54	60
	( Occurrence	43	49	55	61
2nd occurrence	( Objective	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	( negative	44	50	56	62
	( impact				
	( Independence	45	51	57	63
	( Occurrence	46	52	58	64

		9 Unemployed	10 Failure of Business	11 Begin Education
1st occurrence	( Objective	<input type="text"/>	<input type="text"/>	<input type="text"/>
	( negative	65	71	16
	( impact			
	( Independence	66	72	17
	( Occurrence	67	73	18
2nd occurrence	( Objective	<input type="text"/>	<input type="text"/>	<input type="text"/>
	( negative	68	74	19
	( impact			
	( Independence	69	75	20
	( Occurrence	70	76	21

Card No.  
 15

		12 Change School	13 Cease full edctn	14 Impt acad fail	15 Impt exam
1st occurrence	( Objective				
	( negative	22	28	34	40
	( impact				
	( Independence	23	29	35	41
	( Occurrence	24	30	36	42
2nd occurrence	( Objective				
	( negative	25	31	37	43
	( impact				
	( Independence	26	32	38	44
	( Occurrence	27	33	39	45

		16 Moderate finance diffs.	17 Major finance diffs.	18 Major impr.in finance	19 Major physical illness
1st occurrence	( Objective				
	( negative	46	52	58	64
	( impact				
	( Independence	47	53	59	65
	( Occurrence	48	54	60	66
2nd occurrence	( Objective				
	( negative	49	55	61	67
	( impact				
	( Independence	50	56	62	68
	( Occurrence	51	57	63	69

		20 Major ill of close family	21 Wanted. Preg.	22 Unwanted Preg.
1st occurrence	( Objective			
	( negative	70	16	22
	( impact			
	( Independence	71	17	23
	( Occurrence	72	18	24
2nd occurrence	( Objective			
	( negative	73	19	25
	( Impact			
	( Independence	74	20	26
	( Occurrence	75	21	27

Card No.

3

15

		23 Miscarriage Still birth Abortion	24 Birth Live Child	25 Menopause	26 Death of close friend
1st occurrence	( Objective negative impact	<input type="text"/> 28	<input type="text"/> 34	<input type="text"/> 40	<input type="text"/> 46
	( Independence	<input type="text"/> 29	<input type="text"/> 35	<input type="text"/> 41	<input type="text"/> 47
	( Occurrence	<input type="text"/> 30	<input type="text"/> 36	<input type="text"/> 42	<input type="text"/> 48
2nd occurrence	( Objective negative impact	<input type="text"/> 31	<input type="text"/> 37	<input type="text"/> 43	<input type="text"/> 49
	( Independence	<input type="text"/> 32	<input type="text"/> 38	<input type="text"/> 44	<input type="text"/> 50
	( Occurrence	<input type="text"/> 33	<input type="text"/> 39	<input type="text"/> 45	<input type="text"/> 51

		27 Death close family,	28 Death of child	29 Death of spouse	30 Loss/Rob. of pers. value
1st occurrence	( Objective negative impact	<input type="text"/> 52	<input type="text"/> 58	<input type="text"/> 64	<input type="text"/> 70
	( Independence	<input type="text"/> 53	<input type="text"/> 59	<input type="text"/> 65	<input type="text"/> 71
	( Occurrence	<input type="text"/> 54	<input type="text"/> 60	<input type="text"/> 66	<input type="text"/> 72
2nd occurrence	( Objective negative impact	<input type="text"/> 55	<input type="text"/> 61	<input type="text"/> 67	<input type="text"/> 73
	( Independence	<input type="text"/> 56	<input type="text"/> 62	<input type="text"/> 68	<input type="text"/> 74
	( Occurrence	<input type="text"/> 57	<input type="text"/> 63	<input type="text"/> 69	<input type="text"/> 75

Card No.

4

15

		31 Move within city	32 Move to another city	33 Move to another country	34 Become engaged
1st occurrence	( Objective negative impact	<input type="text"/> 16	<input type="text"/> 22	<input type="text"/> 28	<input type="text"/> 34
	( Independence	<input type="text"/> 17	<input type="text"/> 23	<input type="text"/> 29	<input type="text"/> 35
	( Occurrence	<input type="text"/> 18	<input type="text"/> 24	<input type="text"/> 30	<input type="text"/> 36
2nd occurrence	( Objective negative impact	<input type="text"/> 19	<input type="text"/> 25	<input type="text"/> 31	<input type="text"/> 37
	( Independence	<input type="text"/> 20	<input type="text"/> 26	<input type="text"/> 32	<input type="text"/> 38
	( Occurrence	<input type="text"/> 21	<input type="text"/> 27	<input type="text"/> 33	<input type="text"/> 39

35  
Break  
Engagement

36  
Cease  
steady  
date

37  
Increased  
arguments  
with  
finance etc.

38  
Minor  
violation

1st occurrence	( Objective	<input type="text"/>	40	<input type="text"/>	46	<input type="text"/>	52	<input type="text"/>	58
	( negative	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
	( impact	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
2nd occurrence	( Independence	<input type="text"/>	41	<input type="text"/>	47	<input type="text"/>	53	<input type="text"/>	59
	( Occurrence	<input type="text"/>	42	<input type="text"/>	48	<input type="text"/>	54	<input type="text"/>	60
	( Objective	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
	( negative	<input type="text"/>	43	<input type="text"/>	49	<input type="text"/>	55	<input type="text"/>	61
	( impact	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
	( Independence	<input type="text"/>	44	<input type="text"/>	50	<input type="text"/>	56	<input type="text"/>	62
	( Occurrence	<input type="text"/>	45	<input type="text"/>	51	<input type="text"/>	57	<input type="text"/>	63

39  
Important  
violation

40  
Goal  
sentence

41  
Law  
Suit

1st occurrence	( Objective	<input type="text"/>	64	<input type="text"/>	70	Card No. <div>5</div>	15	<input type="text"/>	16
	( negative	<input type="text"/>		<input type="text"/>				<input type="text"/>	
	( impact	<input type="text"/>		<input type="text"/>				<input type="text"/>	
2nd occurrence	( Independence	<input type="text"/>	65	<input type="text"/>	71			<input type="text"/>	17
	( Occurrence	<input type="text"/>	66	<input type="text"/>	72			<input type="text"/>	18
	( Objective	<input type="text"/>		<input type="text"/>				<input type="text"/>	
	( negative	<input type="text"/>	67	<input type="text"/>	73			<input type="text"/>	19
	( impact	<input type="text"/>		<input type="text"/>				<input type="text"/>	
	( Independence	<input type="text"/>	68	<input type="text"/>	74			<input type="text"/>	20
	( Occurrence	<input type="text"/>	69	<input type="text"/>	75			<input type="text"/>	21

42  
Legal  
problems  
of family

43  
Birth  
(dad)  
Adoption

44  
New  
person  
in  
household

45  
Child  
Engaged

1st occurrence	( Objective	<input type="text"/>	22	<input type="text"/>	28	<input type="text"/>	34	<input type="text"/>	40
	( negative	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
	( impact	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
2nd occurrence	( Independence	<input type="text"/>	23	<input type="text"/>	29	<input type="text"/>	35	<input type="text"/>	41
	( Occurrence	<input type="text"/>	24	<input type="text"/>	30	<input type="text"/>	36	<input type="text"/>	42
	( Objective	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
	( negative	<input type="text"/>	25	<input type="text"/>	31	<input type="text"/>	37	<input type="text"/>	43
	( impact	<input type="text"/>		<input type="text"/>		<input type="text"/>		<input type="text"/>	
	( Independence	<input type="text"/>	26	<input type="text"/>	32	<input type="text"/>	38	<input type="text"/>	44
	( Occurrence	<input type="text"/>	27	<input type="text"/>	33	<input type="text"/>	39	<input type="text"/>	45

		46 Child married appr	47 Child married disappr.	48 Child leaves home	49 Child enlists
1st occurrence	( Objective				
	( negative	46	52	58	64
	( impact				
	( Independence	47	53	59	65
	( Occurrence	48	54	60	66
	( Objective				
2nd occurrence	( negative	49	55	61	67
	( impact				
	( Independence	50	56	62	68
	( Occurrence	51	57	63	69

		50 Increased arguments resid.fam.	51 Major arguments non-resid. fam/friend	52 Marked improvement rel. fam
1st occurrence	( Objective			
	( negative	70	16	22
	( impact			
	( Independence	71	17	23
	( Occurrence	72	18	24
	( Objective			
2nd occurrence	( negative	73	19	25
	( impact			
	( Independence	76	20	26
	( Occurrence	77	21	27

Card No.  
6 15

		53 Separation from significant person	54 Marital problems in close family	55 Marriage	56 Increased arguments with spouse
1st occurrence	( Objective				
	( negative	28	34	40	46
	( impact				
	( Independence	29	35	41	47
	( Occurrence	30	36	42	48
	( Objective				
2nd occurrence	( negative	31	37	43	49
	( impact				
	( Independence	32	38	44	50
	( Occurrence	33	39	45	51



		57 Arguments separate more 1 mnth.	58 Marital separate arguments	59 Spouse's extra-mar. affair	60 Patient's extra-mar. affair
1st occurrence	( Objective				
	( negative	52	58	64	70
	( impact				
	( Independence	53	59	65	71
	( Occurrence	54	60	66	72
2nd occurrence	( Objective				
	( negative	55	61	67	73
	( impact				
	( Independence	56	62	68	74
	( Occurrence	57	63	69	75

Card No.

7 , 15

		61 Marked improvement in rels with spouse	62 Marital reconcile	63 Divorce decree	64 Other (state)
1st occurrence	( Objective				
	( negative	16	22	28	34
	( impact				
	( Independence	17	23	29	35
	( Occurrence	18	24	30	36
2nd occurrence	( Objective				
	( negative	19	25	31	37
	( impact				
	( Independence	20	26	32	38
	( Occurrence	21	27	33	39



## appendix

# Personality Assessment Schedule (PAS)\*

Peter Tyrer, John Alexander and Brian Ferguson

This schedule is designed to formalize the assessment of personality disorder and may be used with any subject irrespective of psychiatric status. The way in which the schedule is used will depend on the current mental state of the patient and an assessment of this is a necessary precursor to the personality ratings. It is recommended that the screening schedule of the Present State Examination or SCID (Structured Clinical Interview for DSM-III) be used for the mental state examination, but, if this is not possible, sufficient information should be obtained from the history and examination to make a diagnostic formulation of any psychiatric problems, which should be recorded on the assessment form. If this is not carried out there is a danger that the personality ratings will be contaminated by the mental state.

There are 24 personality variables to be assessed in the schedule. Each of these can be rated by interview with the subject and interview with an informant.

An interview with an informant is desirable in all cases. The interview with the subject is not necessary if he or she is unable to give coherent answers to questions because of gross abnormalities in mental state; the interview with the informant indicates that there has been a marked *qualitative* change in the subject's personality so that replies to questions about past personality are unlikely to be correct; the subject displays severe memory disturbance, whether of organic or psychological origin, and is unable to recall aspects of his premorbid state. If an interview with an informant is not possible, additional independent information about personality may be obtained from other sources (e.g. general practitioner, social worker, probation officer), if this information is considered valid. If several informants are available the final score can be a composite of those in which the most reliable informant carried the greatest weight.

## Use of the schedule

- (1) The initial questions for each personality variable are obligatory. The questions preceded by an asterisk are amplifying questions which may be asked in response to the subject's initial reply. The questions in brackets are direct closed questions which may be asked if replies to other questions have been evasive, contradictory or vague. Although the questions are confined to a specific personality variable there is sometimes overlap with other variables. It may therefore be necessary to re-rate the variable later in the interview.
- (2) *Ratings of severity:* The ratings are made on a nine-point scale for all variables. The number is recorded in the appropriate box at the side of each item or an accompanying sheet. The scale is specifically designed to record abnormal personality traits and most normal variation will occur between scores 0 and 3. The greater the severity of the trait

the greater will be the rating. In addition to the specific points mentioned for each scale, the following general principles should be used to determine the score for a particular trait. (The word trait is synonymous with personality variable in this account, although it is less often used for severe personality disturbance.)

- 0 Trait absent. Presence of the trait is undetected both in respect of feelings and behaviour.
- 1 Subject recognizes the presence of the trait but it is shown chiefly in terms of feelings rather than behaviour. When the trait does affect behaviour, it is not an habitual response so much as a tendency to indulge more in that type of behaviour when several choices are open. Knowledge of how the subject spends spare time may help with this rating, as it is in spare time activities that the element of choice is most obviously shown. (An informant is unlikely to make a distinction between 0 and 1 ratings.)
- 2 Personality trait is definitely present and affects behaviour, but only to a limited extent. It is not associated with problems in occupational, social and interpersonal life. The changes in behaviour produced by the trait are such that those close to the subject will notice them but most friends and acquaintances would not.
- 3 The personality trait markedly affects feelings and behaviour. The presence of the trait may be noticed by others who are not closely related to the subject and may occasionally give rise to the problems in occupational, social and interpersonal life. However, these problems will seldom be persistent and those around the subject can normally accommodate to them without much difficulty.
- 4 The personality trait is marked and is apparent to the subject and to most people who have frequent contact with the subject. This leads to problems in behaviour but these are not major in degree. The trait produces some difficulties in occupational, social and interpersonal adjustment and this tends to be of a mild but persistent nature.
- 5 The personality trait is marked to both the subject and most people who come into contact with the subject. It has a marked influence on behaviour and leads to problems in occupational, social and interpersonal relationships. This rating differs from 4 in that the problems lead to more serious difficulties in adjustment in society and marked underachievement (e.g. inability to settle in one job, refusal to meet people, episodic aggression).
- 6 Personality trait has a major influence on behaviour and tends to affect all aspects of life. The problems in occupational, social and interpersonal relationship are such that major breakdown occurs (e.g. divorce, social isolation, prolonged unemployment), as a direct result of the personality abnormality.
- 7 The personality trait is so marked that it is noticed by almost all who come in contact with the subject, even those who only see the subject once. Independent life in the community is impossible because of the severity in occupational, social and interpersonal relationships so some form of supervision or continuous support is necessary.
- 8 The personality trait dominates behaviour completely (therefore it cannot be given to more than one rating in the schedule). The disturbance produced by the trait is so marked that prolonged periods of institutional care (e.g. hospital, prison, nursing home) take up a large part of the life history in the absence of any formal illness.

Note: most normal variation is accounted for between the ratings of 0 and 3. Only a small number of individuals rate higher scores than 3. The key issues in deciding whether a score of more than 3 is justified are:

- (a) The production of problems in daily living because of the severity of the trait.
- (b) The suffering and underachievement that the trait produces.
- (c) The inability of those around the subject to deal with these problems without asking for additional (often professional) help).

An informant's information is primarily of value for ratings of 3 and upwards. A reliable subject is best fitted to rate lower ratings as these have little or no persistent effect on behaviour.

- (3) In all instances of abnormal personality traits try and get the subject or informant to provide examples of the problems produced by the trait.
- (4) Assess the reliability of the subjects' and informants' replies at the end of interview and score on the nine point scale. Wherever the informants' and subjects' ratings for an item differ by three or more points ask further questions, and where possible, obtain independent information about the trait in question.

## Additional notes on PAS

### Procedure for scoring

It will be noticed on the final scoring sheet there is a space for 'the final score'. If the reliability of the informant's ratings is considered to be greater than the subject's ratings or equal to them, the final score will normally consist of the informant's ratings alone. If, however, the difference between informant's and subject's ratings for a personality attribute is greater than two points, it is advisable to ask further questions to establish the reasons for the discrepancy, possibly with both informant and subject present together. On an individual item it may also be considered that the subject's ratings are more reliable than those of the informant even though the rest of the ratings may be more accurately determined by the informant. In such instances the scoring may more closely approximate to the subject's ratings for that item.

If the subject's ratings are to be considered more reliable than those of the informant (which is particularly likely if the informant is not a close relative and has only known the subject for a limited period), the subject's ratings will take greater precedence in the final scoring. However, any informant rating that is greater than 3 must be carefully followed up by further questioning if it significantly disagrees with that of the subject. This is because any abnormal behaviour as a consequence of the personality attribute is likely to be more accurately detected by the informant than by the subject.

If an informant is not available, the subject's ratings alone can be used although this is much less satisfactory than having the informant's ratings also. If the subject's ratings are to be used, as much independent information as possible about premorbid personality is needed to corroborate the subject's ratings. This may be possible from past medical or social records but useful facts (p. 143) recording major life events may also be useful. This is administered before the PAS, preferably with other independent information as well, and any relevant positive findings introduced at the appropriate point in the PAS when this is administered subsequently. The subject will then have to explain the reasons for the apparently abnormal behaviour and, if the abnormality is judged to be related to a personality attribute, it will be scored appropriately. The additional schedule therefore serves in some way as a lie schedule.

When scoring each rating use the notes below each personality trait for guidance only. The scoring should follow the principles outlined in pages 140 and 141 for all traits.

### Comparison of scores in different subgroups of patients

The individual scores for personality attributes can be compared separately by the usual statistical methods. The investigator may, however, wish to know to which category of personality each patient belongs. A program based on cluster analysis is available, which places each patient into one of five personality groups: normal, sociopathic, passive-dependent, anankastic or schizoid (Tyrer and Alexander, 1979). If investigators would like to know how their patients are classified according to their system they may either obtain a



copy of the program (which is short enough to run on all microcomputers) or alternatively send their score sheets to the Research Office, Mapperley Hospital, Porchester Road, Nottingham NG3 8AA. Additional classification with modified questions suitable for DSM-III diagnostic categories is also available from the above address if required. Details of hand scoring of schedules are also available for those who do not have access to a computer: these are given on pp. 164-167.

## Useful facts

Sometimes both subjects and informants have a distorted impression of previous personality and make it sound more favourable than it really was. The rater therefore needs as much information as possible about the patient's past experience so that these can be introduced into the questioning at relevant points in the interview. Below is a list of some of the important events that are affected frequently by personality characteristics. The rater should have information about these events, preferably obtained independently, before the interview. If this is not possible questions should be put to both subject and informant during the interview. It would be wrong to assume that any of these events are necessarily associated with personality abnormality but they are useful anchor points around which questions about personality can be asked. If there are serious discrepancies between independent evidence of these events and the subject's or informant's responses the rater should resolve these before making a final score for that personality item. As in other parts of the schedule independently derived information is given greater weight when making this decision.

- (1) *Marital relationship* – if unmarried has the subject ever cohabited? If married or divorced how many times have the couple separated for any reason during marriage?
- (2) *Child care*. Have there been any problems with the children of the patient? Have any children been involved with the police or official agencies and have they ever been in care?
- (3) *Has the subject ever been in debt?* What were the circumstances?
- (4) *Employment*. How many jobs has the subject had since leaving school? What were the circumstances of leaving these jobs? Was the subject ever sacked from a job or did they leave because of problems with colleagues?
- (5) *Legal*. Has the subject ever been convicted of an offence? If so, what was the offence and outcome?
- (6) *Does the subject drink alcohol, take illegal drugs or gamble?* If so, have any problems arisen as a consequence of these activities?
- (7) *Housing*. How many addresses has the subject had in the last 10 years? What were the reasons for moving? Has the subject ever been homeless?
- (8) *Adolescent problems*. Did the subject have any problems when attending school after the age of 11? If so, what was the outcome?

## Interview procedure

It is helpful to have a check list of ratings of severity for each personality trait and the 'useful facts' above when interviewing the patient or informant. These are appended and may be detached for ease of reference when interviewing. The list of facts may be completed after the interview if necessary.

*Subject*

I am going to ask you some questions about the type of person you are normally.

\*I am trying to find out what you were like before your present problems began.

In answering these questions I would therefore like you to think about your personality as it has been throughout your life. I am going to ask you some more questions about this but first of all how would you describe your personality in a few words? (Note main features and record on sheet at end of schedule.)

*Informant*

I am going to ask you some questions about the type of person S is normally.

\*I am trying to find out what S was like before his/her present problems began.

In answering these questions I would therefore like you to think about S's personality as it has been throughout his/her life. I am going to ask you some more questions about this but first of all how would you describe S's personality in a few words? (Note main features and record on sheet at end of schedule.)

## 1. PESSIMISM

*Subject*

Do you get depressed easily or are you reasonably cheerful?

Are you pessimistic or optimistic about the future or do you just take it as it comes?

☐

\*Have you always felt depressed and low spirited, or has this only happened recently?

(1)

\*Do other people notice it? (Give examples)

(Has this affected you at work, at home and with friends? In what way?)

(Have you ever thought seriously about suicide?)

Further questions may be needed to separate episodes of depressive illness from persistent depressive attitudes and behaviour.

*Informant*

Does S get depressed easily or is he/she reasonably cheerful?

Is he/she pessimistic or optimistic about the future or does he/she just take it as it comes?

☐

(2)

\*Has S always felt depressed and low spirited or has this only happened recently?

\*Does S appear gloomy to other people?

(Has this affected him/her work, at home and with friends? In what way?)

(Do people avoid S because he/she is so miserable?)

*Subject/Informant*

Note Ratings 1-3 A pessimistic outlook on life with no effect on behaviour.

Ratings 4-6 Depressive behaviour including social withdrawal and morbid depression to the extent that others notice and are affected by the behaviour.

Ratings 7-8 Persistent pessimism and depressive behaviour with almost complete withdrawal and isolation.

Ratings of 5 and above are only justified when depressive feelings and behaviour, associated with hopelessness about the future, are present or have been present in the absence of formal psychiatric illness. Do not include recurrent depressive illness in this category unless the personality between episodes is also abnormal or there is

evidence that S has been clinically depressed all his/her life. Short periods of pessimism or depressed feelings of less than two weeks should be regarded as evidence of lability of mood rather than evidence of abnormal pessimism. If in doubt delay rating until lability trait scored.

## 2. WORTHLESSNESS

### Subject

How do you think of yourself in relation to other people? Do you feel better, worse, or about the same? ☐

\*Do you feel inferior to others? In what way? For how long?

\*How does it affect you?

(3)

(Have you always felt like this or only just recently?)

\*Do you think your life would have been different if you did not feel inferior to others? In what way?

(Do you feel useless or worthless most of the time?)

(Have you ever thought you deserved more out of life?)

(How would you feel if you were promoted at work?)

### Informant

How does S think of himself/herself in relation to other people?

Does he/she feel better, worse, or about the same? ☐

\*Does he/she feel inferior to others?

\*Do others notice this?

(4)

(Has he/she always felt like this or only just recently?)

\*Does he/she think his/her life would have been different if he/she did not feel inferior to others? In what way?

(Does S feel useless or worthless most of the time?)

### Subject/Informant

Note Ratings 1-3 Mild feelings of inferiority, fully compensated and not obviously apparent to others.

Ratings 4-6 Strong feelings of inferiority, affecting behaviour. Subject will not do things he is capable of because of abnormally low self esteem. At least some impairment at work and social adjustment.

Ratings 7-8 Strong feelings of inferiority amounting to worthlessness. Because of these feelings subject requires continuous reassurance and support. Not able to work regularly or make any useful relationship.

Do not confuse worthlessness with depression although the two often coexist.

## 3. OPTIMISM

### Subject

I asked earlier whether you were normally a cheerful person. (Refer to answer) ☐

\*Are you more or less cheerful than most other people?

Have you always felt very cheerful no matter what has been happening in your life?

(5)

\*Sometimes cheerfulness and over-confidence can lead to difficulties in life, such as overspending or making plans to do something which cannot succeed. Is this true of you?

\*Would you describe yourself as too optimistic? (Examples of problems associated with optimism.)

\*Have you any special abilities that make you feel optimistic and successful?

(Have you ever been in debt or got into trouble in any way because of over-confidence?)

Exclude problems associated with irresponsibility or childishness.

#### Informant

I asked earlier whether S was normally a cheerful person. Do you think of S as cheerful? Would others describe him/her as cheerful? Has S always felt very cheerful no matter what has been happening in his/her life? ☐ (6)

\*Sometimes even cheerfulness can lead to difficulties in life, such as overspending or making plans to do something which cannot succeed.

Is this true of S?

\*Would you describe S as too optimistic? (Examples of problems associated with optimism.)

\*Does S think of himself/herself as a special person who is bound to succeed? (Has S ever been in debt or got into trouble in any way because of over-confidence?)

#### Subject/Informant

Note Ratings 1-3 Subject is more cheerful than most others and is capable of communicating his cheerfulness to them.

Ratings 4-6 Over-cheerfulness leads to unrealistic ambitions and aspirations, including overspending, over-confidence and impaired judgement, so subject may be sacked from work or be in serious debt. Subject remains optimistic and self-important in spite of these problems.

Ratings 7-8 Breakdown in relationships, inability to maintain stability in any aspect of social, occupational or interpersonal life because of abnormal cheerfulness, over-optimism and self-importance.

To merit a high rating the optimism has to be more or less continuous and not part of the manic phase of manic depressive illness. Short periods of abnormal optimism of less than 2 weeks should be regarded as evidence of lability of mood rather than evidence of abnormal optimism. If in doubt delay rating till lability trait scored.

#### 4. LABILITY

##### Subject

Do your spirits } change from day to day or week to week, or do they/does it  
Does your mood } remain more or less the same? ☐ (7)

\*Are these changes connected with what is going on in your life or are they separate?

\*How long do they last?

\*Do they lead to problems?

(Can you predict your changes in mood?)

(How often do you laugh and cry?)

##### Informant

Does S's mood change from day to day or week to week, or does it remain more or less the same? ☐ (8)



\*Are these changes connected with what is going on in his/her life or are they independent?

\*How long do they last?

\*Do other people notice these changes? Do they lead to problems?

(Is S unpredictable because of these sudden changes in mood?)

(How often does he/she laugh and cry?)

(Do you ever feel that he/she can turn these feelings on when he/she wants?)

#### *Subject/Informant*

Note Ratings 1-3 A tendency towards mild exaggeration of mood swings in response to life changes.

Ratings 4-6 Marked lability, noticeable to others and leading to problems because of strength of mood swings. Most mood changes responsive to life events but may be independent. Unpredictability of subject's behaviour because of mood change also a source of difficulties.

Ratings 7-8 Breakdown in social, occupational and personal relationship because of abnormal swings in mood. In these instances it would be more likely that the changes are independent of life events so that they cannot be manipulated in any way. What is known as 'cyclothymia' will be included here if the swings in mood occur at least as frequently as once every 2 weeks. If they occur less frequently than this, but still produce important personality problems, then the relevant rating should be included under the pessimism and optimism scales.

### 5. ANXIOUSNESS

#### *Subject*

Are you normally an anxious or a calm person?

When things go wrong in your life (e.g. illness in family, accident) do you get more nervous, the same or less nervous than most people?

☐

(9)

\*Do you ever worry about things that most people would not be concerned about? (Give examples)

\*Do you show your nervousness to other people or do you cover it up?

\*Have you always been an anxious person?

(Do you worry about something or someone most of the time?)

(Has your anxiety ever led to problems) (Specify)

#### *Informant*

Is S normally an anxious or a calm person?

When things go wrong in his/her life (e.g. illness in family, accident) does he/she get more nervous, the same or less nervous than most people?

☐

(10)

\*Does S every worry about things that most people would not be concerned about? (Give examples)

\*Do other people notice that S is an anxious person or does he/she keep it to himself/herself?

\*How has this worrying affected S?

(Does S worry about something or someone most of the time?)

#### *Subject/Informant*

Note Ratings 1-3 Mild anxiety-proneness which is normally suppressed so that others are not aware of it.



Ratings 4-6 Anxiety noticeable to others, leading to changes in behaviour.

Ratings 7-8 Frequent or continuous free-floating anxiety of such severity that breakdown in social adjustment occurs.

Life-long phobic anxiety may contribute to this rating but the severity of the rating would depend on the same categories mentioned in the outline to scoring (i.e. it is the extent to which it interferes with personal and social adjustment that determines the rating).

## 6. SUSPICIOUSNESS

### Subject

How well in general do you get on with other people?

Do you normally trust them or are you suspicious of them, at least at first?

How long does it take for you to get to know people before you will trust them? ☐ (11)

\*Do you tend to worry what is going on behind your back?

\*Do you ever think that other people might be against you or criticize you unfairly?

(Have you many friends?)

(Are you worried in case someone might find out what you have been saying to me?)

### Informant

How well in general does S get on with other people?

Does S normally trust them or is he/she suspicious of them, at least at first?

How long does it take for him/her to get to know people before he/she will trust them? ☐ (12)

\*Would you say that S is a suspicious person?

\*Does he/she have many friends? (if yes) Is this because he/she will not trust anybody?

\*Is S a jealous person?

### Subject/Informant

Note Ratings 1-3 Mild feelings of suspiciousness, not noticed by others. Subject tends to have relatively few friends but is capable of close relationships and will trust those he/she knows well.

Ratings 4-6 Problems in social adjustment because of abnormal suspiciousness. Takes a very long time to get to know people and only trusts a very small number of people. Feels that others criticize him/her without adequate cause.

Ratings 7-8 Breakdown in relationships and social adjustment because of abnormal suspiciousness.  
At extreme ratings patient is completely isolated because he/she feels all are against him/her.

## 7. INTROSPECTION

### Subject

Do you think a great deal about how you feel and what you do or do you think about them very little? ☐

Do you prefer being on your own to being with other people? (13)

\*Are you a person who spends a lot of time thinking? (If yes) What about?

\*Are you an introvert?

\*Do you think like this all the time or only when there is a problem on your mind?

*Informant*

Does S think a great deal about how he/she feels and what he/she does or does he/she think about them very little? ☐

Does S prefer being alone to being with other people? ☐

(14)

\*Is S an introvert?

\*Is S ever completely bound up in himself/herself? How often?

\*Does S appear to live in a world of his/her own?

\*How does this affect his/her relationships with other people?

\*Do other people notice that S is like this?

*Subject/Informant*

Note Ratings 1-3 Mild introspection and introversion, not noticeable to others.

Ratings 4-6 Problems in adjustment because of excessive rumination and introspection, often with a tendency to indulge in fantasy. These feelings may lead to problems by indecision, impaired judgement and poor relationships.

Ratings 7-8 Completely bound up in self to the exclusion of other matters, Indulges in much fantasy. Self-neglect frequent.

## 8. SHYNESS

*Subject*

Are you normally a shy person or are you confident with other people? ☐

Do you get to know people quickly or do you take a long time before feeling at ease with them? ☐

(15)

Do you lack self-confidence?

\*Do you ever go out of your way to avoid people because of shyness?

\*Do you have difficulty in making friends because you are shy?

\*Would you like to feel more at ease with people? Has shyness caused problems for you?

(Do you feel uncomfortable even in the presence of friends?)

(Are you feeling shy or uncomfortable now?)

*Informant*

Does S get to know people quickly or does he/she take a long time before feeling at ease with them? ☐

Is S normally a shy person or does he/she have no difficulty getting on with people? ☐

(16)

Is S a self-confident person?

\*Does he/she ever go out of his/her way to avoid people because of shyness?

\*Does S have difficulty in making friends because S is shy?

\*Do other people notice that S is shy?

\*Has shyness caused problems for S?

(Does S feel uncomfortable even in the presence of friends?)

*Subject/Informant*

Note Ratings 1-3 Mild shyness, but this is compensated and others do not notice it.

Ratings 4-6 Excessive shyness and lack of self-confidence leading to avoidance of people and personal discomfort when with people.

Ratings 7-8 Very marked shyness leading to breakdown in social adjustment. Subject unable to work adequately or make relationships because of symptoms. In severe cases may be completely isolated.

It is important to exclude natural aloofness and detachment from shyness – the former group are not distressed in the company of other people, shyness is always associated with some feelings of anxiety.

## 9. ALOOFNESS

### Subject

Are you a person who likes to stay apart from other people or do you like to have close relationships? ☐

Have you any really close relationships? (If no, does this bother you?) (17)

Do you need people in any way or can you do without them?

(Would you mind living entirely on your own without any contact with other people?)

(Do others ever say you are stand-offish or aloof?)

### Informant

Is S an {isolated  
aloof} person who likes to stay apart from other people or does he/she like to have close relationships? ☐

Has he/she any really close relationships? (18)

\*Does S ever appear stand-offish or detached to other people?

\*Is S happier when he/she is on his/her own?

(Do other people tend to stay apart from S?)

(Has this tendency to be aloof led to any problems in S's life?)

### Subject/Informant

Note Ratings 1-3 Mild detachment leading to a reluctance to involve subject in close relationships. Not noticeable to others and adequate relationships made with close friends and relatives.

Ratings 4-6 Abnormal aloofness noticeable to others and leading to problems in social adjustment, mainly in interpersonal relationships.

Ratings 7-8 Excessive detachment and lack of interest in other people. No close relationships. Indifference to other people's feelings and opinions.

Lack of interest in other people is unrelated to shyness or psychiatric symptomatology such as social fears. Subject does not feel distressed with other people and merely has no interest in them.

## 10. SENSITIVITY

### Subject

Are you a {touchy  
sensitive} person or does it take a lot to upset you? ☐

How do you react to criticism? (give examples) (19)

\*Do people ever say you are too touchy?

\*How long does it take for you to get over criticism?

(Have any of my questions upset or disturbed you in any way?)

(Do you tend to take things personally?)

*Informant*

Is S a  $\left\{ \begin{array}{l} \text{touchy} \\ \text{sensitive} \end{array} \right\}$  person or does it take a lot to upset him/her?

How does S react to criticism? (give examples)

\*Have people to be careful what they say to S in order not to upset him/her?

\*Do people ever say S is too touchy?

\*Does he/she take a long time to get over criticism?

(Has this sensitivity led to problems in S's relationships with others?)



(20)

*Subject/Informant*

Note Ratings 1-3 Mild sensitivity. May be upset easily but does not show it except to close friends and relatives.

Ratings 4-6 Excessive personal sensitivity with a tendency to self-reference (e.g. feels people are being critical when they are not). This leads to problems in social adjustment (e.g. frequent changes of job, broken relationships).

Ratings 7-8 Excessive sensitivity leads to breakdown in social performance. Extreme tendency to self-reference.

Sensitivity to the feelings of others is not an abnormal phenomenon and should not be included in this rating. This rating is concerned with personal sensitivity and touchiness. If in doubt about this rating, delay till ratings of vulnerability and irritability are made. Also differentiate between sensitivity and suspiciousness. Although the two may overlap, sensitivity leads to emotional distress whereas suspiciousness is usually independent and may frequently be prominent in insensitive people.

## 11. VULNERABILITY

*Subject*

Do you find that when things go wrong in your life it disturbs you a great deal or do you remain on an even keel?

Does it take you a short time or a long time to get back to normal after some mishap (e.g. illness in family, accident, loss of job)?

(How do you think you would cope with a crisis such as death in the family, car accident or loss of your job?)



(21)

*Informant*

Does S find that when things go wrong in his/her life it disturbs him/her a great deal or does he/she remain on an even keel?

Does it take S a short time or a long time to get back to normal after some mishap (e.g. illness in family, accident, loss of job)?

\*Does S need to be protected from unpleasant things because others know he/she will take them very badly? (If yes) Could you give an example?

\*Are other people aware that S is vulnerable? How do they show it?

(Do you protect S from unpleasant events?)



(22)

*Subject/Informant*

Note Ratings 1-3 Reacts more than most to adversity but does not show these feelings to others.



Ratings 4-6 Abnormally vulnerable, reacts excessively to adversity, so leading to social maladjustment for a prolonged period. Eventually, however, more normal functioning is resumed until the next adverse episode.

Ratings 7-8 Subject vulnerable to even the minor stresses of life to which he/she reacts as though they were major problems. Break-down in social adjustment because of this.

It is important to separate vulnerability from sensitivity and resourcelessness. Although all three may be present in one individual, the characteristics are separate. The sensitive person is touchy and reacts easily to implied criticism, the vulnerable person reacts to major life events by feelings of distress which may take a long time to resolve and are not commonly associated with compensatory action, and the resourceless person reacts to adversity by not coping and just giving up. When assessing vulnerability do not include sensitivity and resourcelessness.

## 12. IRRITABILITY

### Subject

Are you an irritable or a placid person?  
Are you impatient at times? Under what kind of circumstances?  
How do you show it?

☐  
(23)

\*Do you keep it to yourself or do other people notice that you are impatient and irritable?  
\*Does this lead to problems in your relationships with other people?

(When was the last time you were really irritable?)  
(How did you show this?)

### Informant

Is S an irritable or a placid person?  
Is he/she impatient at times? Under what kind of circumstances? How does he/she show it?

☐  
(24)

\*Does he/she keep it to himself/herself or do other people notice that S is impatient and irritable?  
\*Does this lead to problems in S's relationships with other people? (Specify)

### Subject/Informant

Note Ratings 1-3 Mild irritability, kept under control.

Ratings 4-6 Abnormally irritable, leading to social adjustment problems (e.g. poor relationships with others).

Ratings 7-8 Severe irritability, making it very difficult for subject to make adequate relationships with others. Inability of the subject to cope in any environment which involves sudden changes because of severe irritability.

In making this rating, impulsiveness and aggression should be excluded. An impulsive act is followed by regret. Irritability is largely shown in verbal responses and does not include physical violence, which should be scored under aggression. 'Passive-aggressive' features may be included here if the irritability leads to procrastination, obstruction and delay in completing tasks.

## 13. IMPULSIVENESS

*Subject*

Do you always think carefully before you do something or do you act on impulse? ☐

\*Have you ever done things on impulse and regretted them afterwards? (Give examples) (25)

\*Have you ever been in trouble because you are impulsive? (Give examples)

\*When you have been impulsive has it ever harmed other people?

If 'Useful facts' section (p. 143) suggests impulsivity is a problem (e.g. criminal offences) mention them here if subject answers negatively.

*Informant*

Does S think carefully before he/she does something or does he/she act on impulse? ☐

\*Does he/she ever do things on impulse and regret that afterwards? (26)

\*Has S ever been in trouble because he/she is impulsive? (Give examples)

\*Has his/her impulsiveness ever harmed other people?

(Has S had problems with drugs or drink because he/she is impulsive?)

*Subject/Informant*

Note Ratings 1-3 Mild impulsiveness, not noticeable to others, or causing no problems in social adjustment.

Ratings 4-6 Impulsiveness associated with regret which has led to problems of social adjustment (e.g. loss of job).

Ratings 7-8 Frequent impulsiveness leading to criminal behaviour and/or breakdown in social functioning throughout adult life.

As impulsiveness may sometimes be associated with aggression, this rating may be delayed until aggression is assessed.

## 14. AGGRESSION

*Subject*

Do you lose your temper easily or does it take a lot to make you angry? ☐

When you get angry how do you show it? (27)

\*Have you ever lost control completely?

\*Are you normally like this or only on certain occasions (e.g. after heavy drinking?)

(Do you ever react by physical violence?)

(Have you ever been in trouble with the law?)

*Informant*

Does S get angry easily or is he/she generally placid? ☐

When S does get angry how does he/she show it? (28)

\*Has he/she ever lost control completely?

\*Is he/she normally like this or only on certain occasions (e.g. after heavy drinking?)

\*How do other people react to S's violence? What problems does it cause?

(Does he/she ever react by physical violence or does he/she keep it to himself/herself?)

(Has S ever been in trouble with the police/law?)

*Subject/Informant*

Note Ratings 1-3 Anger and aggression felt frequently but kept to himself/herself. Passive aggression to be included here.

Ratings 4-6 Aggression abnormal and leads to social difficulties (e.g. trouble with police), and violence at home. Do not rate criminal offences here unless they are a direct consequence of aggressiveness.

Ratings 7-8 Breakdown of social adjustment with long history of antisocial behaviour, usually with criminal record.

## 15. CALLOUSNESS

*Subject*

Are you easily affected by other people's feelings or can you ignore them?

\*Do you care much about other people? (Do you care at all?)

(Do you find it difficult to sympathize with and understand other people's feelings?)  
(Have you ever enjoyed hurting other people?)

☐

(29)

*Informant*

Is S easily affected by other people's feelings or can S ignore them?

\*Does S care much about other people?

Does S find it difficult to sympathize with and understand other people's feelings?

\*Does he/she ever appear to get pleasure from hurting people in any way?

\*How does this affect his/her relationships with other people?

(Has he/she ever hurt people (physically or mentally) deliberately?)

(Give examples)

(Is S callous or sadistic?)

☐

(30)

*Subject/Informant*

Note Ratings 1-3 Mild insensitivity and indifference to other's feelings.

Ratings 4-6 Cold and indifferent to the extent that S is only capable of a few relationships, and these are rarely close.

Ratings 7-8 Marked callousness with or without sadistic behaviour, leading to breakdown in social functioning, and frequent criminal involvement.

## 16. IRRESPONSIBILITY

*Subject*

Do you ever do things without caring about the consequences or are you always careful in what you do?

Would you describe yourself as a responsible or an irresponsible person?

Do you ever get into serious difficulties because of irresponsibility (e.g. into debt, criminal acts, sexual difficulties)? How has irresponsibility affected your life? (give examples). Bring up any information derived from the section 'Useful facts' if negative answers given but past history suggests irresponsibility.

☐

(31)

*Informant*

Does S ever do things without caring about the consequences or is S always careful in what he/she does? ☐

Would you describe S as a responsible or an irresponsible person? (32)

\*Does he/she ever get into serious difficulties because of irresponsibility (e.g. into debt, criminal acts, sexual difficulties)?

\*How does this affect his/her relationships with others? How has irresponsibility affected his/her life? Has it caused serious problems?

*Subject/Informant*

Note Ratings 1-3 Mildly irresponsible, feelings kept under control, not noticed by others or, if manifest, not causing real problems.

Ratings 4-6 Highly irresponsible, takes risks repeatedly, problems in social adjustment (e.g. in debt, frequent accidents, unwanted pregnancies). Do not rate criminal offences automatically unless they stem from irresponsibility.

Ratings 7-8 Irresponsibility so great that S needs to be constantly supervised and cannot live independently because of this.

## 17. CHILDISHNESS

*Subject*

Do you ever act in a childish way or would you regard yourself as fairly mature?  
Do you ever manipulate people to get your own way? ☐

(33)

\*Do you like being the centre of attention?

\*Have you ever acted selfishly, only thinking of yourself?  
(Has this led to problems?)

*Informant*

Does S ever act in childish ways or would you regard him/her as fairly mature?  
Does he/she ever manipulate people to get his/her own way?  
Has this ever led to problems? ☐

(34)

\*Is S a selfish person who only cares about himself/herself?

\*Does he/she appear to be younger than his/her years?

\*Does he/she like being the centre of attention?

(How does this affect his/her relationships with others?)

(Has he/she any mature relationships?)

(Do other people tend to treat S as a child?)

*Subject/Informant*

Note Ratings 1-3 Self-centred attitudes with occasional childish behaviour but this is seldom noticeable to others.

Ratings 4-6 Immature behaviour and marked selfishness leading to social adjustment problems

Ratings 7-8 Severe childishness, cannot live independently because of this. All relationships involve others supervising or caring for



### 18. RESOURCELESSNESS

#### Subject

When you are faced with a challenge do you usually respond to it well or do you give in to it? ☐

When there are problems in your life do you usually tackle them alone? (35)

Are you somebody who can normally solve your own problems?

\*How have you coped with major problems in the past? (Get examples)

(When was the last time you coped with a serious problem on your own?)

#### Informant

When S is faced with a challenge does he/she usually respond to it well or does S give in to it? ☐

When there are problems in S's life does he/she usually tackle them along or does S need help from others? (36)

\*Does S constantly need support to cope with life's problems?

\*How does this affect his/her relationships with others?

\*How has S coped with major problems in the past?

#### Subject/Informant

Note Ratings 1-3 Copes with problems with some difficulty but does not involve others to an unnecessary extent.

Ratings 4-6 Others involved in coping with S's problems, impairing social functioning. Frequent problems in work.

Ratings 7-8 Unable to cope with life's practical difficulties without continuous support. Not able to live independently because of this.

### 19. DEPENDENCE

#### Subject

Do you rely on other people a great deal or are you an independent person? ☐

\*Do you find it difficult to make up your mind without involving others? (37)

\*How would you like to live and/or work alone?

(Who do you depend on most?) (In what way?)

(Would you like to be less dependent?)

(Has your dependence led to problems in your relationships?)

#### Informant

Does S rely on other people a great deal or is he/she usually independent? ☐

\*Does he/she find it difficult to make up his/her mind without involving others? (38)

\*Do you think S could cope with living and/or working alone? What would happen?

(Do you think S is too dependent? On whom?)

(Does this lead to problems?) (Give examples)

(Has he/she always been like this?)

#### Subject/Informant

Note Ratings 1-3 Some dependence in excessive need for advice and reassurance from close relatives or friends but behaviour seldom abnormal

Ratings 4-6 Excessive reliance on others, leading to social adjustment problems.

Ratings 7-8 Completely dependent on individual group or institution. Unable to work or function independently at any level.

## 20. SUBMISSIVENESS

### *Subject*

Do you give in easily to others or do you stand up for yourself? ☐

\*Do you go along with decisions made by others even if you feel it is the wrong decision? (39)

\*Do you prefer to avoid arguments?

\*Do people ever take advantage of you? (Give examples)

(Are you easily dominated?)

(Do you wish you could stand up for yourself better?)

### *Informant*

Does S give in easily to others or does S stand up for himself/herself? ☐

\*Does S go along with decisions made by others even if he/she feels they are the wrong decisions? (40)

\*How does this affect relationships with others?

\*Do people ever take advantage of S because they know he/she will not retaliate?

(Is S easily dominated?)

(Is he/she afraid to say what he/she really thinks?)

### *Subject/Informant*

Note Ratings 1-3 Mild submissiveness and compliance, but stands firm on major issues.

Ratings 4-6 Very submissive, unwilling to express own views, is dominated in most relationships.

Ratings 7-8 Gives in to everybody, no independent function, exploited by others. Breakdown in social functioning.

## 21. CONSCIENTIOUSNESS

### *Subject*

Are you normally a fussy or a carefree person? ☐

Do you plan everything down to the last detail or do you seldom plan anything in life? (41)

\*Do people ever say you are too fussy or conscientious, or even a perfectionist?

\*Do you wish you were less conscientious?

\*Are you a person with high standards?

\*Does conscientiousness ever lead to problems in your life? (Specify)

(Did you worry that you might be late today?)

(If I had been late would it have upset your routine?)

(Do you think you work harder than the average person?)

### *Informant*

Is S normally a fussy or a carefree person? ☐

Does he/she plan everything down to the last detail or does he/she seldom plan anything in life? (42)

- \*Do people ever say S is too fussy or conscientious, or even a perfectionist?
- \*How does this affect his/her relationships with others?
- \*Is he/she a person with high standards?

### Subject/Informant

- Note Ratings 1-3 Over-fussy and conscientious, preoccupied with routine and excessively meticulous, but no social adjustment problems.
- Ratings 4-6 Conscientiousness abnormal, plans excessively far ahead, adjustment problems because of need for meticulous planning.
- Ratings 7-8 Excessive conscientiousness accompanied by doubt. Unable to achieve anything as the smallest of tasks becomes a major enterprise. Unable to work or use leisure, leads to interpersonal breakdown. In severe cases subject will usually have many obsessional symptoms.

In making a rating do not include obsessional symptoms (i.e. symptoms which the subject recognizes to be silly and consciously tries to overcome), unless these are part of the underlying personality of the subject. Also recognize that conscientiousness is thought to be a favourable personality trait and may be exaggerated by S or informant.

## 22. RIGIDITY

### Subject

Do you find difficulty in adjusting to new situations or are you an adaptable person?  
Do you get upset if your plans are changed for any reason or are you flexible?

☐

\*Can you adjust to others who act or feel differently from you (e.g. at work, with family)?

(43)

(Do you always have to have your own way?)

### Informant

Does S find difficulty in adjusting to new situations or is S an adaptable person?  
Does he/she get upset if his/her plans are changed for any reason or is S flexible?

☐

\*Can he/she adjust to others who act or feel differently from him/her (e.g. at work, with family)?

(44)

\*Is he/she a person of fixed ideas?

\*Do other people get upset with S because he/she is inflexible?  
(Give examples of problems caused by inflexibility)

### Subject/Informant

- Note Ratings 1-3 Rigidity present but attempted compensation by subject leads to no social adjustment problems.
- Ratings 4-6 Rigidity extreme, refuses to change, often dominating others. Marked problems in social adjustment because of rigidity, although if subject is driving and energetic he/she may appear successful initially.
- Ratings 7-8 Inflexibility so severe that life is completely ritualistic and impairment of adjustment so marked that independent life is impossible.

## 23. ECCENTRICITY

*Subject*

Do you think you are very different from other people? In what way?

\*Have you any unusual habits or interests? What are they?

\*Have you any unusual beliefs in things like telepathy and mind control?  
(Have these beliefs caused problems in your life?)

☐

(45)

(Direct questions may be asked about any eccentric features noted at interview.)

*Informant*

Do others ever regard S as eccentric in any way? In what way?

\*Has he/she any unusual habits or interests? What are they?

\*Does he/she tend to conform with other people or is he/she unaware of them?

\*Does he/she deliberately set out to shock people by being unconventional?

\*Has he/she any unusual beliefs about telepathy and mind control?

(Do you find his/her thoughts and speech difficult to follow?)

(Can you give examples and problems they have caused?)

☐

(46)

*Subject/Informant*

Note Ratings 1-3 Mild eccentricity, often deliberately stressed because it does not conform, but no social adjustment problems.

Ratings 4-6 Marked eccentricity. S unable or unwilling to conform, recognized as odd by others, marked social impairment.  
Has odd thinking, speech and beliefs that cause problems in adjustment.

Ratings 7-8 Behaviour and attitudes so bizarre that life in society impossible without supervision.

A low rating should be given if the subject acts in an eccentric way to attract attention. The true eccentric is oblivious to others' reactions. Any unusual beliefs or perceptions may only be rated if they are independent of mental illness such as schizophrenia.

## 24. HYPOCHONDRIASIS

*Subject*

Do you worry a great deal about your health or do you seldom give it a thought?

\*When you have been ill have you worried that it might be more severe than it turned out to be?

\*Are you more concerned about your health than most other people?

(How often do you visit the doctor? What for?)

(Have you ever been really well?)

☐

(47)

*Informant*

Does S worry a great deal about his/her health or does S seldom give it a thought?

\*When he/she has been ill has he/she worried that it might be more severe than it turned out to be?

\*Is S more concerned about his/her health than most other people?

\*Do you or other people think of S as a hypochondriac?

☐

(48)



**Subject/Informant**

Note Ratings 1-3 Mild hypochondriasis. Over-concerned about minor illness and health (e.g. takes vitamins or health foods regularly).

Ratings 4-6 Hypochondriasis marked. S frequently considered himself/herself to be ill even when physically healthy. Social adjustment problems; hypochondriasis affects behaviour and relationships.

Ratings 7-8 Hypochondriasis dominates S's life. Considers himself/herself to be ill despite contrary evidence. Unable to live independently because fears about health dominate behaviour.

Many people with a history of mental illness are naturally concerned about its likely recurrence and its effects on other people. Do not rate such concern as abnormal unless it is excessive.

**Reliability of subject**

On the basis of your interview, do you consider the subject to have been a reliable witness?

Note Rating 0 Highly reliable witness. Evidence from behaviour and demeanour at interview and any previous knowledge of witness all consistent. ☐ (49)

Ratings 1-3 Probably a reliable witness but independent information lacking.

Ratings 4-6 Possibly an unreliable witness from demeanour at interview but no independent evidence of this.

Ratings 7-8 Unreliable witness. Report inconsistent with previous knowledge of witness and evidence of incorrect report from demeanour at interview.

**Reliability of informant**

On the basis of your interview, do you consider the informant to have been a reliable witness?

Note Rating 0 Highly reliable witness. Evidence from behaviour and demeanour at interview and any previous knowledge of witness all consistent. ☐ (50)

Ratings 1-3 Probably a reliable witness but independent information lacking.

Ratings 4-6 Possibly an unreliable witness from demeanour at interview but no independent evidence of this.

Ratings 7-8 Unreliable witness. Report inconsistent with previous knowledge of witness and evidence of incorrect report from demeanour at interview.

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This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**Personality Assessment Schedule**

Name of Interviewer ..... Date .....

Name of Subject ..... Place of interview .....

Age of Subject ..... Previous acquaintance of  
subject and interviewer: YES/NO

Name of Informant ..... Age of Informant .....

Relationship to Subject ..... Duration of acquaintance of subject and  
informant:  
.....

Details of psychiatric treatment of subject (if any)	Year	Inpatient		Duration of treatment
		Outpatient	Day patient	
	.....	.....	.....	.....
	.....	.....	.....	.....
	.....	.....	.....	.....

Current diagnostic formulation .....

..... ICD code .....

..... DSM code .....

Current treatment (if any) .....

Main personality features described spontaneously at beginning of interview

Subject .....

## Scoring

Write rating 0-8 in appropriate box

Variable	No.	Box no.	Sub.	Box no.	Inf.	Final score
Pessimism	1	1		2		
Worthlessness	2	3		4		
Optimism	3	5		6		
Lability	4	7		8		
Anxiousness	5	9		10		
Suspiciousness	6	11		12		
Introspection	7	13		14		
Shyness	8	15		16		
Aloofness	9	17		18		
Sensitivity	10	19		20		
Vulnerability	11	21		22		
Irritability	12	23		24		
Impulsiveness	13	25		26		
Aggression	14	27		28		
Callousness	15	29		30		
Irresponsibility	16	31		32		
Childishness	17	33		34		
Resourcelessness	18	35		36		
Dependence	19	37		38		
Submissiveness	20	39		40		
Conscientiousness	21	41		42		
Rigidity	22	43		44		
Eccentricity	23	45		46		
Hypochondriasis	24	47		48		
Reliability of information		49		50		

COMMENTS (Problems in scoring to be noted here) .....

.....

.....

.....

.....



## Revised classification of personality disorder using PAS

The schedule is scored in the usual way and a final score decided for each personality variable before embarking on classification.

### Stage 1

Examine all 24 scores. If none is greater than 2 code as 'normal personality' and do not proceed further.

### Stage 2

Compute scores for individual personality groupings as follows:

- (1) *Sociopathic* – add scores for variables 12, 13, 14, 15 and 16, divide total by 5 and subtract from this the sum of scores for variables 2, 21 and 23 divided by 30.
- (2) *Passive-dependent* – add scores for variables 5, 11, 17, 18 and 19, divide total by 5 and then subtract from this the sum of scores for variables 15, 22 and 23 divided by 30.
- (3) *Anankastic* – add scores for variables 7, 10, 21, 22 and 24, divide total by 5 and then subtract from this the sum of scores for variables 13, 15 and 16 divided by 30.
- (4) *Schizoid* – add scores for variables 6, 7, 8, 9 and 23, divide total by 5 and subtract from this the sum of scores for variables 4, 12, 14 divided by 30.
- (5) *Explosive* – add together the scores for variables 12, 13, 14 and 16, divide total by 4 and subtract from this the total of scores for variables 2, 8, 20 and 21, divided by 40.
- (6) *Sensitive-aggressive* – add together the scores for variables 6, 10, 12 and 14, divide by 4 and subtract from this the total of scores for variables 3, 23 and 24, divided by 30.
- (7) *Histrionic* – add together the scores for variables 4, 11, 17 and 19, divide total by 4 and subtract from this the scores for variables 9, 15, 22 and 23 divided by 40.
- (8) *Asthenic* – add together the scores for variables 5, 10, 18 and 20, divide total by 4 and subtract from this the totals for variables 3, 14 and 15 divided by 30.
- (9) *Anxious* – add together the scores for variables 5, 8, 20 and 21, divide total by 4 and subtract from this the totals for variables 3, 14 and 15 divided by 30.
- (10) *Paranoid* – add together the scores for variables 5, 6, 10 and 11, divide total by 4 and subtract from this the total for variables 2, 15 and 23 divided by 30.
- (11) *Hypochondriacal* – add together the scores for variables 5, 19, 21 and 24, divide total by 4 and subtract from this the total for variables 3, 16, 20 and 23 divided by 40.
- (12) *Dysthymic* – add together the scores for variables 2, 8, 9 and 21, divide total by 4 and subtract from this the total score for variables 3 and 14 divided by 20.
- (13) *Avoidant* – add together the scores for variables 5, 7, 8 and 11, divide total by 4 and subtract from this the total scores for variables 10, 12, 14 and 23 divided by 40.

### Rating of personality abnormality

The 'adjusted' score for each of the 13 personality types is used. For the first four types (sociopathic, passive-dependent, anankastic and schizoid), a score of 3.5 or more indicates severe personality disorder, a score of 2.5–3.5 indicates personality disorder, and a score of 2–2.5 indicates personality difficulty. For the remaining nine personality types (explosive, sensitive-aggressive, histrionic, asthenic, anxious, paranoid, hypochondriacal, dysthymic and avoidant), a score of 3.75 or more indicates severe personality disorder, 2.75–3.75 indicates personality disorder and 2.25–2.75 indicates personality difficulties.

### Severe personality disorder

Add 0.25 to the scores for sociopathic, passive-dependent, anankastic and schizoid personality types. The higher score then indicates the label to be attached to the personality. Mixed classification is only allowed when two or more scores for personality types from different groups (see p. 165) exceed 3.5. If this occurs, the final diagnosis is gross personality

disorder with those features that exceed a score of 3.5. Thus a total of 4.25 for sociopathic and 4.05 for schizoid categories would be regarded as gross personality disorder with sociopathic and schizoid features.

### Personality disorder

Add 0.25 to the scores for sociopathic, passive-dependent, anankastic and schizoid categories. Note the higher score. Check that at least one of the key variables involved in making that personality diagnosis scores 4 or more. If it does, record that category as personality disorder. If a key variable does not exceed 4 then take the next highest scoring category (provided that it is in the appropriate scoring range) and check the key variables again. Thus, the final personality disorder diagnosis must have a mean score within the limits above and have a key variable scoring 4 or more.

Mixed labelling is allowed when two or more of the personality types from the different groups below have scores within the range of the personality disorder. Under such circumstances the higher score becomes the personality label and the others are regarded as secondary features. Thus a score of 3.5 on the schizoid category and 3.05 on the anankastic one is labelled 'schizoid personality disorder with secondary anankastic features'.

### Personality difficulty

The same procedure is followed as with personality disorder except the range of scoring is lower and a key variable has to exceed three or more to qualify for the diagnosis of personality difficulty.

### Combining diagnoses

In some studies it may be necessary to combine the diagnoses to obtain numbers large enough for analysis. This can be done by reducing the numbers of personality types to four, antisocial, dependent, inhibited and withdrawn.

These are combined according to the scheme below.

Sociopathic	}	Antisocial group
Explosive		
Sensitive-aggressive		
Passive-dependent	}	Dependent group
Histrionic		
Asthenic		
Anankastic	}	Inhibited group
Anxious		
Hypochondriacal		
Dysthymic		
Schizoid	}	Withdrawn group
Paranoid		
Avoidant		

### Key traits

For some studies research workers prefer to use a dimensional assessment of personality rather than a categorical one. This has the advantage that all subjects being tested with the

useful in studies that are looking at personality traits and characteristics rather than specific personality disorder. Key traits score for each of the four major personality types is calculated as follows:

- (1) *Sociopathic* – add scores for variables 12, 13, 14, 15 and 16, and divide total by 5.
- (2) *Passive-dependent* – add scores for variables 5, 11, 17, 18 and 19, and divide total by 5.
- (3) *Anankastic* – add scores for variables 7, 10, 21, 22 and 24, and divide total by 5.
- (4) *Schizoid* – add scores for variables 6, 7, 8, 9 and 23, and divide total by 5.

The 9 subcategories of personality disorder can also have their key traits scores calculated in a similar way. However, it should be noted that many of these overlap as they are subcategories of the main ones and therefore their key traits scores will be similar. *Explosive (impulsive)* and *sensitive-aggressive* personalities are subtypes of the sociopathic group, *histrionic* and *asthenic* personalities are subtypes of the passive – dependent group, *anxious*, *hypochondriacal* and *dysthymic* personalities are subtypes of the *anankastic* group, and *paranoid* and *avoidant* personalities are subtypes of the *schizoid* group.

- (5) *Explosive (impulsive)* – add together the scores for variables 12, 13, 14 and 16, and divide total by 4.
- (6) *Sensitive aggressive* – add together the scores for variables 6, 10, 12 and 14 and divide total by 4.
- (7) *Histrionic* – add together the scores for variables 4, 11, 17 and 19, and divide total by 4.
- (8) *Asthenic* – add together the score for variables 5, 10, 18 and 20, and divide total by 4.
- (9) *Anxious* – add together the scores for variables 5, 8, 20 and 21, and divide total by 4.
- (10) *Paranoid* – add together the scores for variables 5, 6, 10 and 11, and divide total by 4.
- (11) *Hypochondriacal* – add together the scores for variables 5, 19, 21 and 24, and divide total by 4.
- (12) *Dysthymic* – add together the scores for variables 2, 8, 9 and 21, and divide total by 4.
- (13) *Avoidant* – add together the scores for variables 5, 7, 8 and 11, and divide total by 4.

## Personality Assessment Schedule: DSM-III and DSM-III-R version

Although the PAS was developed before DSM-III was introduced and includes some items that are not present in DSM personality disorders (e.g. hypochondriasis) there is still a considerable degree of overlap between the personalities derived from the PAS and those in DSM. The scoring system below is suitable for reaching a DSM-III diagnosis with the PAS. This is a simple procedure that can be done by hand as well as using a short computer program.

Add the ratings for each of the four variables and divide by four to get the mean score. A mean score of 2.75 or greater indicates a DSM-III personality disorder. Simultaneous presence of several personality disorders is permitted in DSM-III and DSM-III-R, but the personality type with the highest score could be regarded as the most serious. The narcissistic and passive-aggressive personality disorders are scored less satisfactorily than the other nine but are included for completeness.

### DSM-III Personality type coding

301.00	Paranoid	– suspiciousness + sensitivity + vulnerability + irritability (6+10+11+12)
301.2	Schizoid	– introspection + aloofness + eccentricity + pessimism (7+9+23+1)
301.22	Schizotypal	– shyness + eccentricity + suspiciousness + aloofness

301.5	Histrionic	- lability + dependence + childishness + irresponsibility (4+19+17+16)
301.7	Antisocial	- callousness + aggression + impulsiveness + irresponsibility (15+14+13+16)
301.8	Borderline	- lability + impulsiveness + aggression + worthlessness (4+13+14+2)
301.82	Avoidant	- vulnerability + shyness + anxiousness + submissiveness (11+8+5+20)
301.6	Dependent	- dependence + submissiveness + resourcelessness + sensitivity (19+20+18+10)
301.4	Obsessive- compulsive	- conscientiousness + rigidity + introspection + anxiousness (21+22+7+5)
[ 301.81	Narcissistic	- childishness + vulnerability + optimism + irritability (17+11+3+12)
[ 301.84	Passive- aggressive	- irritability + resourcelessness + rigidity + childishness (12+18+22+17)

## ICD-10

The draft version of ICD-10 personality disorder shows a close relationship with the PAS classification.

The following diagnoses can be regarded as equivalent:

Sociopathic	(PAS)	and	Dyssocial	(ICD-10)
Passive-dependent	(PAS)	and	Dependent	(ICD-10)
Explosive	(PAS)	and	Impulsive	(ICD-10)
Sensitive-aggressive	(PAS)	and	Dyssocial	(ICD-10)
Histrionic	(PAS)	and	Histrionic	(ICD-10)
Asthenic	(PAS)	and	Dependent	(ICD-10)
Avoidant	(PAS)	and	Anxious	(ICD-10)
Schizoid	(PAS)	and	Schizoid	(ICD-10)
Paranoid	(PAS)	and	Paranoid	(ICD-10)
Anankastic	(PAS)	and	Anankastic	(ICD-10)

Other diagnoses in the PAS can be categorized under Personality Disorder - other in ICD-10.



PERSONALITY QUESTIONNAIRE

I would like you to think back over the entire period that you knew \_\_\_\_\_ and make an assessment of the kind of person he/she was during most of that time. PLEASE UNDERLINE THE ANSWER THAT COMES CLOSEST TO WHAT YOU THINK.

Was \_\_\_\_\_ by nature the kind of person .....

1. ... who had a gloomy or pessimistic outlook on life?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

2. ... who felt inferior to others?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

3. ... who was overly or unrealistically cheerful in outlook?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

4. ... whose moods changed dramatically from one day to the next?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

5. ... who got noticeably anxious or nervous when things went wrong in his/her life?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

6. ... who was reluctant to trust other people?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

7. ... who was completely bound up in his/her thoughts?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

8. ... who went out of his/her way to avoid people because of shyness?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

9. ... who liked to stay apart (detached) from other people rather than have close relationships?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

10. ... who was sensitive and reacted quickly to criticism?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

11. ... who was easily disturbed and distressed when things went wrong in his/her life?

No - never      No - rarely      Yes - sometimes      (Yes - always) [ ]

12. ... who was abnormally irritable and impatient with others?

No - never      No - rarely      Yes - sometimes      (Yes - always) [ ]

13. ... who did things on impulse and perhaps regretted it afterwards?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

14. ... who was frequently aggressive and lost control easily?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

15. ... who was cold and indifferent to other people's feelings?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

16. ... who behaved irresponsibly (without caring about the consequences)?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

17. ... who acted in a childish and immature manner?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

18. ... who was unable to cope with life's practical difficulties without help from others?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

19. ... who was excessively dependent or reliant on other people?

No - never      No - rarely      Yes - sometimes      Yes - always [ ]

20. ... who gave in to others (was unable to stand up for him/herself)?

No - never

No - rarely

Yes - sometimes

Yes - always [ ]

21. ... who was overly fussy, planning everything down to the last detail?

No - never

No - rarely

Yes - sometimes

Yes - always [ ]

22. ... who got upset if his/her plans were changed for any reason?

No - never

No - rarely

Yes - sometimes

Yes - always [ ]

23. ... whose behaviour might have been called eccentric?

No - never

No - rarely

Yes - sometimes

Yes - always [ ]

24. ... who worried about his/her health without good reason?

No - never

No - rarely

Yes - sometimes

Yes - always [ ]